

# AIR TRANSPORTATION

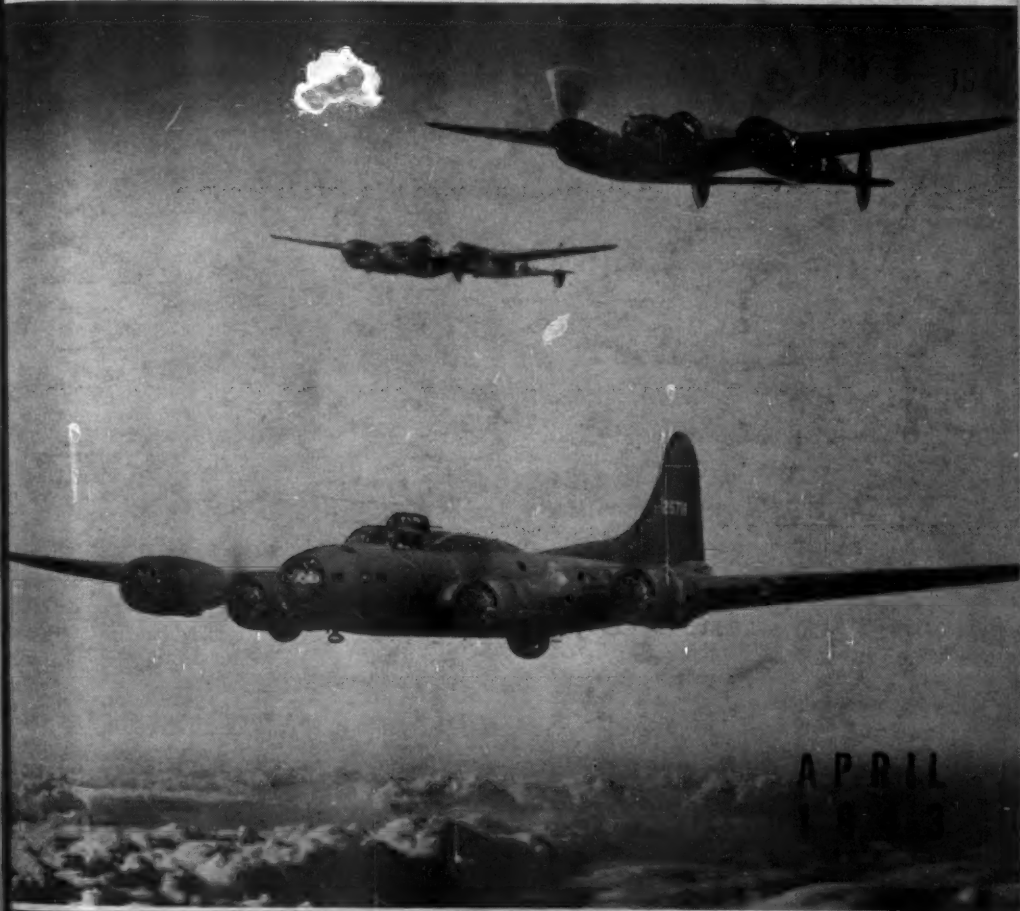
AIR CARGO

FREIGHT  
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FOREIGN  
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APRIL  
1933

AIR MAIL

PASSENGERS

AIR EXPRESS

Fast, Dependable, Daily Service to

## SOUTH AMERICA\*

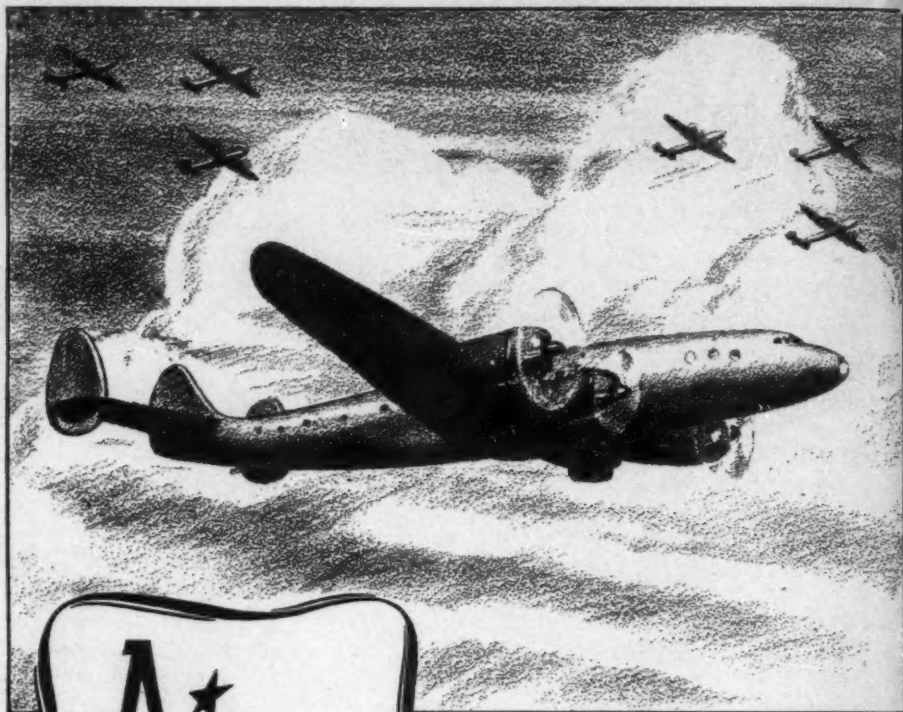
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PAK AMERICAN CREDIT COMPANY  
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# AIR TRANSPORTATION

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*April*  
1943

VOL. 2

No. 4

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### AIR TRANSPORTATION'S COVER

Tunisian panorama: Lockheed P-38 Lightnings help guard Boeing B-17 Flying Fortresses as they fly out to blast Axis sea and air cargo bases.



## MULTIPLICATION

★ In the month of December 1941, the United States was attacked by treachery. In anticipation of such a possibility, our Government had created a Defense Program. Under the Defense Program, by December 1941, the Production of the Beech Aircraft Corporation had multiplied  $12\frac{1}{2}$  times over the production rate of the year 1939, when Hitler first unleashed his fury.

With war a reality, efforts were redoubled, and by December of 1942 the production rate of the Beech Aircraft Corporation had reached the astonishing level of more than 100 times the average production rate for the year 1939.

This story, repeated all over the United States, for all sorts of weapons of war, is the prophecy of disaster for the Axis aggressors.

### Comparative Rate of Beech Airplane Production

Year 1939	+	+	+	+	100 %
December 1941	+	+	+	+	1,250 %
December 1942	+	+	+	+	10,000 %

# Beech Aircraft

*A Beechcraft AT-11 Drops a Stick of Bombs*

C O R P O R A T I O N

BEECHCRAFTS ARE DOING THEIR PART



WICHITA, KANSAS, U. S. A.

PAGE 4—AIR TRANSPORTATION—*Air Commerce*



# Plan Now for Postwar Era of Cargo-by-Air

## *Sizer of Marshall Field Has Practical Vision*



By LAWRENCE B. SIZER  
*Advertising Director, Marshall Field & Co.*

**T**HE war is over! Of course it really isn't, but some day it will be, and I'm describing a scene which takes place a few years after whatever armistice comes out of victory for the United Nations' cause.

John Prentice pops out of bed from under his thermostatically controlled electric blanket into a room already warm because the rising sun has caused an electric eye to close the window and turn on the heat. The house—being almost perfectly insulated—is quickly brought to normal temperature and humidity by a highly efficient heating plant. Later the sun will take over the heating job by shining on a series of mirrors placed at the proper angle.

Gazing speculatively at his face in the bathroom mirror, John feels the hot water that comes crystal-clear through a plastic pipe. He is cheered by the smooth and colorful fixtures and interior of his bathroom, as well as by the reflection that it is virtually one unit, weighs only a small fraction of what an old bathroom used to, and cost him considerably less than half as much to build.

Humming softly to himself, Prentice dons a costume made largely of synthetics. The fabrics are cooler for summer, warmer for winter, much less costly than old-fashioned materials. Downstairs he glances at the newspaper—having already heard and seen a famous news commentator on the television panel in his bathroom—and sits down. In the kitchen Della, the faithful maid, is getting breakfast.

She works with a single kitchen unit which in practically one fell swoop cooks the eggs, squeezes the oranges, makes the pancakes, crisps the bacon, and sprinkles them all liberally with vitamins A, B, C, and D, and sometimes W and Y.

John glances up from his newspaper as Della comes in through the swinging door opened ahead of the old family retainer by the action of a photoelectric cell. Della walks under the fluorescent light (which also has enough ultraviolet rays in it to impart a gentle tan to John's unfurrowed brow).

Having finished eating, Prentice puts on his coat and prepares to depart. At the front door he pauses long enough to call back, "Della, I'll be late for dinner tonight. Got a sales meeting in New York. Be back here about eight o'clock." This leaves Della unsurprised, for even *she* knows that in spite of the fact that New York is several hundred miles away from Prentice's office, he can easily get there for lunch, hold his meeting and come back in time to round out the evening at home.

Prentice walks past an inset electric eye and the garage doors open by themselves to reveal his closed cabin helicopter—rotors folded back—awaiting his pleasure. He steps on the starter, taxis into the yard, spreads

the rotors and takes off almost perpendicularly for a 20-minute flight to his office room some 50 miles away.

Once on the roof he parks his plane with folded rotors beside those of his associates and goes downstairs to his office. Yes, John Prentice has begun his normal business day in a way that would keep you and me goggle-eyed but to him it's just routine, and he thinks only briefly and without undue excitement of the coming week-end that he and his wife will spend in London with their son and his family. Neither does he think very much about the fact that he has a conference next week in Rio de Janeiro.

• • •

A marvelous world—this postwar world of John Prentice's—but wait a minute; when he opens the door to his office, he steps out of *that* world, back into the same old prewar thinking and equipment that he used until the morning of Dec. 8, 1941, and has never since changed. Everything's the same—oh, true, there are some newfangled lighting fixtures,

and the office is air-conditioned. But everything else is just as it always has been.

"That picture's crazy," you say—and how right you are! But have you ever stopped to consider that *this is exactly what may happen to you and me if we don't bestir ourselves?* Listen to this statement made recently by a famous speaker before the American Chemical Society. He said:

**"The pressures of this war are compressing into the space of months developments that might have taken us a half-century to realize if necessity had not forced the pace."**

Before very long you and I, as sales and advertising people, are going to be doing business in a world that is several decades ahead of the prewar world in technical developments—in a world that has been shrunk by the operation of huge transoceanic cargo and passenger liners. We'll be doing business in a smaller world with new and broader horizons and dealing in new products born of the war and science.

When this war is won, we, as sales and advertising people, need no longer be limited by geographical boundaries, nor need we be limited by national prejudices and antiquated customs if the proper groundwork for world trade is considered in the winning of the peace.

### **The World as a Market**

Worldwide merchandising will be a part of that new little world in which a buyer will purchase linen handkerchiefs in Chunking, oriental rugs in Teheran and ski clothes in Switzerland on a week's buying trip—and still get back in time to spend the weekend with his family in Shaker Heights.

The question is—are we going to try to meet that kind of situation with distributive and marketing methods exactly like the ones we used up to Dec. 7, 1941?

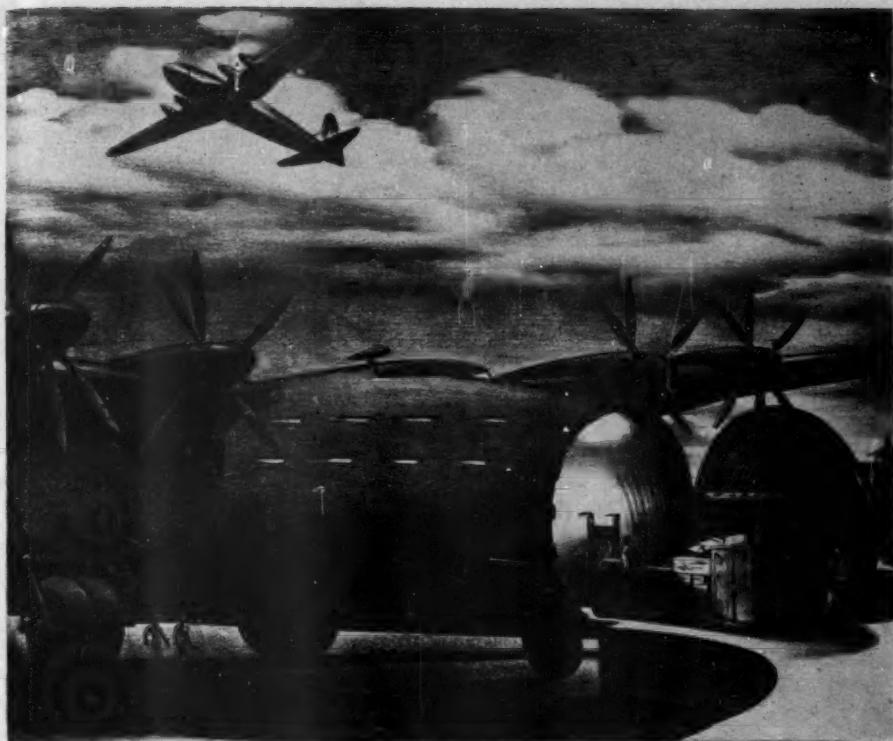
The question has startling implications—and it leads directly to another one—so ask yourself this: *What have I done recently to move my organization and plans ahead to a point where it will meet a 20- or 30-year change that took place almost overnight while I had my back turned?"*

### **The Author**

Lawrence B. Sizer, advertising director of Marshall Field & Co., Chicago, began his business career in Benton Harbor, Mich., as a newspaperman. After a time spent as a writer and editor there, he joined the staff of the Associated Press in Detroit. In 1928 he entered the advertising and publicity fields with Midland United Co. (utilities). Six years later he joined the Detroit staff of N. W. Ayer & Son, one of the world's largest and oldest advertising agencies.

In 1938 he did his first work for Marshall Field & Co., writing a column under the by-line "Caleb." He returned to N. W. Ayer & Son to direct its radio department for two years before returning to Marshall Field & Co. as advertising director.

Mr. Sizer was born in Oak Park, Ill. He attended a number of private and public schools and two years after entering newspaper work, matriculated at Olivet College, Olivet, Mich. He is married, has three children and lives in Winnetka, a Chicago suburb.



*Tomorrow's Cargoliner, as seen by United Air Lines in one of its recent "age of flight" advertisements.*

## **The Importance of Tomorrow**

The matter of whether we ought just now to be thinking of postwar plans is vigorously and frequently debated—usually with time and thought that might better be devoted to other things. But here is a little incident that really happened and it pretty well answers that debate about postwar planning.

When the big plane on which Eddie Rickenbacker was riding to a military mission got lost over the Pacific and began to near the end of its gas supply, an interesting thing happened. Everybody was calm and self-possessed. Capt. Bill Cherry, in command of the plane, assigned each man his duties, and Rickenbacker helped get things in readiness, for it had been decided to set the big four-engined plane down while there was still a little gas left to maintain control.

As the Fortress settled nearer and nearer the waves the sound of the two remaining motors seemed muffled and far away. Sud-

denly through the tenseness of that instant came the voice of one of the crew, "Hey, captain, do you care if we pray back here?" And Bill Cherry's voice snapped back, "Pray? What the hell do you think *we're* doing?"

And there you have it. The man responsible for the ship was doing his job well—for he *did* set that big dry-land duck down in the trough of a wave without cracking up. But meanwhile, as he gripped the pilot wheel, he was praying. The answer is that we can do both jobs at once—and do them well.

This is particularly true for those of us whose jobs lie in the distributive or selling end of business and industry. We *can* and *must* take steps to keep our share of the business abreast of the developments.

## **Minds Must Be Conditioned**

No matter what political party may be in power, or what particular school of thought dominates our postwar picture—you and I

know that a number of basically important elements in our selling picture will have changed to such a degree that we will have to come at the whole problem in wholly new fashion.

Obviously, the first step is a *frame of mind*. The second is a *comprehension of the new and enlarged duties we shall all be called upon to carry*, and the third is the *establishment of plans fundamentally sound and flexible enough to fit into whatever detailed pattern and post-war world may conjure up*. Let's take a look at things in that order.

About this frame of mind—it seems simple enough, and to sales folk is, perhaps, a bit like carrying coals to Newcastle. Certainly in sales, of all places, there is a hunger and willingness for new methods and free-style thinking. Let's admit among ourselves today that such an assumption isn't invariably true. We are, as a group, as much bound and hampered by tradition as any class of business executive. In our calling it is dangerously easy to develop a formula and stick to it from then on just because it happened to work in the last depression or the last postwar period.

You never could sell automobiles with horse and buggy techniques—and we won't be able to market anything in an airplane world with old-fashioned automobile techniques. When we say "market" of course we mean the whole matter of getting a product to a consumer—right from the market survey and analysis that goes ahead, on through invention and design, manufacture, advertising, selling, distribution, and service. Every one of these functions will have to be geared to a postwar world which is a few years from Pearl Harbor by the calendar, but a lifetime in human development and demand. Our old selling techniques aren't good enough—we'll have to do better. That's the frame of mind necessary to meet the problems that will face you before very long.

I think I hear someone say, "Well, there are certain fundamentals in selling that never change." Sure—that's right; but the fundamentals of internal combustion engines drive both autos and airplanes. Their *application* makes the difference—and it's quite a difference! How you and I apply the old principles to the new world we face will determine whether we hold on to our positions or whether some bright youngster has to come along and show us how it's done. Hardening of the mental arteries is one of the most dread occupational diseases in selling. It *could* happen to us.

## **'Good Old Days' All Gone**

Too much has transpired for us to return completely to the good old days—if they were good—and you can usually get a debate on that point too. So your frame of mind is the first thing to set in shape as you square off for this scrap to win the peace.

Second in our list was the need for understanding the new responsibilities of our craft. Seven years ago you wouldn't have understood what I meant if I had said "a war of nerves." Now you all understand it. You know it describes a propaganda technique that is a powerful and fundamental factor in the current war—a technique practiced with terrific force and diabolic skill by the Axis Powers. Hitler and the Japs, particularly, regard propaganda as one of their most important weapons.

Now propaganda, by definition, can be good or bad, but in recent years we have seen for the first time that, good or bad, it can be a World Force of major proportions. You and I deal in propaganda of one sort or another—we make our living by it. Now, at last, we have seen it demonstrated that we deal in a major World Force. A responsibility? To be sure!

Like it or not, many of us will find ourselves planning and selling on an international basis. A good many of you will find yourselves—like our friend Mr. John Prentice—planning breakfast in Cleveland, dinner in London, and a weekend in Rio de Janeiro. And you'll have to lay your market plans the same way.

*Maybe you won't be interested in the London market, but don't forget—the London sales manager may be interested in the Cleveland market, and he'll be in a position to do something about it if he is. Both of you are certain to be interested in South America if your distribution is normally of national scope with even a small export volume.*

In the decade after the war, millions of people in China and Russia will read for the first time. Probably Mr. Luce will want to distribute *Time* and *Life* there.\* Single radio programs (commercial or otherwise) can and will be broadcast to a hemisphere, and if desirable, to every continent and island on the globe. Yankee merchandising and Yankee

\* People who know Russia and China may argue with Contributor Sizer's implication of present illiteracy. As for *Time* & *Life's* Editor Luce, he already has plans; *Time's* Air Express Edition, originated for Latin America, is definitely pointed at worldwide distribution after the war.—Ed.



advertising can travel the air waves hand in hand to the far reaches of the earth when this war is won. If one of your customers happens to like a London tailor, he can easily patronize him, because airplane people can tell him how quick, easy and cheap it is to get to London. Likewise the tailor there can tell the folks in Cleveland why Bond Street has always made the best clothes for men. If it's hard enough to get a good Crossley rating with four big radio networks, what will you do with Europe, South America and Asia competing for your listener's one set of ears?

Furthermore, your propaganda efforts are going to be clothed with a great deal more significance than heretofore. The Government—and I believe properly so—will want to cast a careful eye over anything you use in advertising or propaganda that will reach other nations and continents. The judging of international advertising techniques is going to be a career in itself—a career which must begin with an exhaustive knowledge of world customs and conditions. Basically, it is going to be much easier for customers to go the outlets for goods they want. The utility of position loses some of its hitherto vital importance. If a small, private helicopter can be had at automobile prices, and will travel 120 miles or so in an hour, a lot of people will live where they can commute to Detroit or Cleveland with equal facility.

### **Moral Sense Also Vital**

All these considerations stress not only the need of improving our technical skill in sales and advertising. More importantly, they stress the need of developing our moral responsibility. We have seen what a devastating force bad propaganda can be, you and I know all too well that there can be some very bad forces in peacetime advertising. We'll have to do some policing ourselves—or find our field being policed for us. I hazard the guess that tomorrow's best advertisers will be the ones who are the least selfish, and the most sincere in their wish and intention to serve the consumer.

With tremendously greater force, advertising after the war will be a force for good or evil. It will have to help build whatever world we achieve. It must not tear down the worth while things. Before this war you could be—advertisingwise—a complete isolationist. But after it, communications and travel facilities will make most of you international advertisers whether you want to be or not. There's a responsibility you never had before. Along with volume you have a whole new set of con-

siderations that can be lumped under the heading of international relations.

And now, inevitably, we come to the third question, or, what to do about it? Well, first of all, cover the two points we've touched upon. Give them some thought yourself, get the right frame of mind, and then analyze the new responsibilities and demands to be made on you and your organization. Then finally do something about it!

I believe that every alert salesmanager should have someone working on his postwar situation—even if it's only the third assistant office boy. You can be sure that Du Pont, General Electric and Ford are laying postwar plans for new products and new markets. We ought all to be laying plans for the new developments in our field. The facilities we set up to measure our future ought to be in tune with our future. If we think it's going to be a big one, preparations should be big. If we think it's going to be small, our effort to prepare for it should be small.

I cannot speak for you, but at Marshall Field & Co. we happen to believe that our postwar future is without limits, and we're all-out to prepare for it. I strongly suspect that most of you are of the same frame of mind. And if so, I say: "Do something about it!" What you do will vary with each situation. In the end, though, we'll all be doing the same thing; preparing ourselves to be citizens of a world made infinitely smaller by transport and communications, infinitely larger in responsibility and authority.

### **Gorrell, Air Transport Chief, Will Address Foreign Commerce Club**

Edgar S. Gorrell, President of Air Transport Ass'n of America, will be the principal speaker when the Foreign Commerce Club of New York holds its second annual "Aviation Night" in the Grand Ballroom of the Hotel Astor, New York, on May 19th.

As in 1942, the club's "Aviation Night" is sponsored by the nine airlines serving New York, with William F. McGrath, Eastern District Traffic Manager of TWA, serving this year as Chairman of Arrangements.

James Dennean is President of the Foreign Commerce Club and John F. Budd is Chairman of the Speakers' Committee.



**HELICOPTERS NOT ONLY** have a big potential for air cargo, but are already widely used in midocean convoy protection, the Navy revealed this month. They may even prove to be the weapon that will triumph over the U-Boat.

# Helicopters May Make Every Station an Airport

*Northeast Is First Airline  
To Plan Their Widespread Use*

**T**HE miraculous helicopter—developing for years in the brain of Igor Sikorsky—mistress of a flexibility in the air that the plane has never approached—sailed this month into the air cargo horizon with a noise that could be heard from one end of the aviation world to the other.

On the very day that Sikorsky himself was showing motion pictures of his strange-looking craft in operation (rumor had it the new craft might be christened *Sikopter*) and predicting that a cool million of them would probably be in use 10 years after the war's end\*, enterprising Northeast Airlines released in Boston

the announcement of its application for the establishment of a 400-station air mail and cargo helicopter network in New England.

For the second straight month, Northeast had made front-page air news. Last month, it was Northeast's daring application for air cargo, mail and passenger routes totaling 22,866 miles between Boston and Moscow [AIR TRANSPORTATION, March, 1943].

The new helicopter service would carry air cargo (express, at least) and mail to and from

\*In a speech to an aeronautic session of the Society of Automotive Engineers in New York on April 9.

the rooftops of over 400 postoffices and railroad stations in the six New England states and New York, as provided in an application filed on Apr. 8 with the Civil Aeronautics Board.

The Northeast helicopter system would augment the regular airmail operations of the line. Mail and express would be flown, not only between the cities and towns, but also from congested urban locations out to all principal airports for routing and mail-liners.

### ***All First Class Mail, Too***

The application seeks authorization for the transportation not only of airmail but of *all first class mail as well*. Thus, Northeast's plan is the first specific proposal to bring to reality the transportation of all first class mail by air [proposed in Congress by Rep. Lyle Boren of Oklahoma] and the first plan to utilize the

extraordinary flight advantages of the helicopter. Moreover, as the helicopter service progresses, it is planned to request authority to carry passengers to and from downtown districts, airports, and suburbs. This, if granted, would provide the first aerial taxi service in history.

S. J. Solomon, president of Northeast, filed the application after he and fellow officials had witnessed demonstrations of the helicopter by Inventor Sikorsky, the noted aeronautical designer and engineer. According to Solomon, many tests have proved conclusively the practical and economical worth of the helicopter for the service. These tests showed the ability of this type of aircraft to land, take off or hover over rooftops or *areas no greater than the average 9' x 12' living-room rug*. Solomon added that the helicopter cannot be compared to the conventional airplane.

"It would be more appropriate to call it a



**FOR MESSAGES, MAIL, LIGHT CARGO, the Sikorsky helicopter can hover like this over the roof of a railroad station or postoffice—exactly what Northeast Airlines plans to do, if and when CAB approves its application. Photo is of the Sikorsky helicopter built for Army use, as the star insignia shows.**

'flying automobile'—except that it can outperform an automobile in many respects."

These feats are made possible by the helicopter's outstanding advantage over conventional types of airplanes: *perfect directional control*. It can fly straight up, straight down, backward, forward and horizontally to the right and left. It can remain stationary in the air and in any direction of flight be brought to an immediate stop. This perfection of control will be coming increasingly important as traffic develops as a factor in air transportation of the future.

"First, when this war is won, no American community of any size or importance should be denied the manifold advantages of air passenger, mail, and express service, and it is my opinion that *all mail* eventually will be carried by air," Solomon declared. "Second, our country will have a responsibility toward the millions of men in aviation, who are helping to win this war, an obligation to give them the

right to engage in aviation as a peacetime profession and to contribute to its great destiny. It is our duty and the duty of every airline to work and plan for the future of these men.

"We hope the filing of this application will result in many similar applications from other parts of the U. S. Much of the helicopter's development is necessarily a military secret now, but I have seen the results of Mr. Sikorsky's creative genius and I agree with him completely as to the adaptability of this great invention for the peaceful uses to which we shall put it if our application is granted."

After this month's headline-maker, Solomon assured newsmen, Northeast plans to close its bag of tricks and pull out nothing else new and startling until one or the other of its two ambitious plans has been realized. These two super-projects, the company's official announcement said, "are all the company envisages for the present, and it will devote all its energies to bring them to pass."



**STEP RIGHT IN, BROTHER!** It's that easy with a helicopter, as this War Department-approved photo shows—the craft being the two-passenger Sikorsky helicopter used by the Army. Sikorsky himself says that helicopters able to carry 12 to 20 people are "not beyond reasonable expectation". Such big ones could carry corresponding weights of cargo, too, of course.





## LOOK AHEAD to all-cargo planes

*(...they may come before Peace)*

SOME of today's *Clippers*, now being used on war duty as cargo planes, were never designed to carry heavy Air Freight . . . yet, recently, a trans-Pacific Clipper delivered by air a single U. S. Navy box, 11 ft. x 2 ft. x 2 ft., weighing 2,064 lbs. . . . This was in addition to cargo and mail.

Across the Atlantic, in the past 3½ years, *Clippers* carried 3,000,000 pounds of cargo, plus passengers and mail.

When new, much larger, *all-cargo*

*Clippers* are available, can you imagine the Air Express and Air Freight possibilities that will open up for your business? It is not too soon to begin planning for that day right now . . . Commercial, *all-cargo* planes may come *before* peace!

When that day comes it would be natural to turn to Pan American—since Pan American Airways System pioneered both overseas Air Freight and Air Express and has now piled up over 165,000,000 miles of over-ocean flying experience.

*Pan American World Airways System*



BUY WAR BONDS

*Wings over the WORLD*

**PAN AMERICAN CLIPPERS**

APRIL 1943—PAGE 13



*SUPER-CARGOLINER BY FAIRCHILD now under construction is so secret that not even an accurate drawing of it has yet been released. This view from a Fairchild ad may be considered a reasonable if not exact facsimile.*

## First All-Cargo Airplane Was Built Eight Years Ago

*Fairchild Pioneered Idea Now  
Gaining Universal Attention*

CARGO aircraft are new only in the sense that in recent months there has developed a new appreciation of the kind and extent of the services they can perform. The aviation industry has talked about cargo planes for both military and civil use for years, and a number of types have been designed specifically to meet the special conditions of aerial freight-carrying. If this development work hadn't been done during the pre-war years we would not be able to perform the outstanding work now being done in the military air cargo field, say air experts.

Thus it was not last year or the year before, but in 1935 that Fairchild completed, after several years of development, the first airplane built in the U. S. specifically to meet the requirements of commercial and military cargo transport. This was the Army XC-31,

powered by a single Wright engine of 750 horsepower, known even then as the "flying boxcar" because of the generous proportions of the "hold" and the fact that the proportion of useful to gross load was 41 per cent. It did all its work with one engine—one of the features desired by the Army though it was largely because of that feature that it was not ordered in volume, since Army policy on cargo aircraft happened to change about that time to multi-engine craft.

Still the plane reflects the fact that hard-headed engineers and manufacturers anticipated years ago the need for cargo airplanes designed from scratch just for cargo-carrying. And it was natural that Fairchild should pioneer in this field because its planes had been used for years by bush flyers and early airline operators in breaking the trails of scheduled and charter air transport. Airplanes like the FC-2 and 71 series which were adapted for various types of air transport gave Fairchild a cargo plane tradition equalled by few, if any, other American aircraft makers.

The XC-31 was a strut-braced high-wing monoplane constructed of aluminum alloy and steel and, for the most part, fabric covered, the undercarriage being made particularly strong in order to withstand the shock of landings on unprepared fields.

A strut-braced high wing was used instead of a cantilever wing in order to provide maximum space in the fuselage or "hold." For that reason, too, the single-place cockpit was located high in the forward part of the structure. Its position gave the pilot excellent visibility and also placed him out of the way in the event of a shift forward of heavy loads in the "hold" caused by broken lashings or a crackup.

The "hold" was 19 feet long, 6 feet 4 inches wide and 6 feet 4 inches high, providing about 775 cubic feet of cargo space. In order to facilitate the handling of large, bulky loads, the opening on the right side of the fuselage, closed by double doors, was made five feet four inches wide and four feet 11 inches high. For the same reason the floor



**EARLY CARGOPLANE interior (Fairchild's XC-31) featured folding seats for passengers, if any, and special chute, in background, for launching packages for delivery by parachute. Built for the Army, it never got into mass production because Army policy veered away from single-motored planes.**



**NORTHERN TRAILBREAKER** was this Fairchild monoplane of nearly a decade ago, produced for Canadian Transcontinental Airways and equipped with skis instead of wheels for landings in the snow.

level at the door was 4 feet off the ground, so that the threshold registered with the platform of the conventional truck at the time when backed up to deliver or receive freight. Special fastenings were provided in the floor and the walls, for securing the loads against shifting. Small portholes and dome lights illuminated the interior. A feature of the airplane was a cargo chute at the rear of the "hold" which facilitated the delivery of items while in flight.

The plane had a gross weight of 13,000 lbs., empty weight of 7,322 lbs. and useful load of 5,678 lbs., with a top speed of 167 miles per hour at 3,000 feet, cruising speed of 140 and landing speed with full load of only 52. With a full load it had a cruising range of 750 miles, or five hours. The ceiling was 18,100 feet.

### **Blazed Jungle Air Trails**

While the XC-31 was the first American airplane built specifically to meet the requirements of air cargo, Fairchild airplanes had been widely used for scheduled and charter cargo carrying for many years before that. Two series figured in that sort of thing—the FC-2 and the 71 series—starting about 1926. Both were single-engine high-wing monoplanes, the early models having three or four places and the 71's having six to eight.

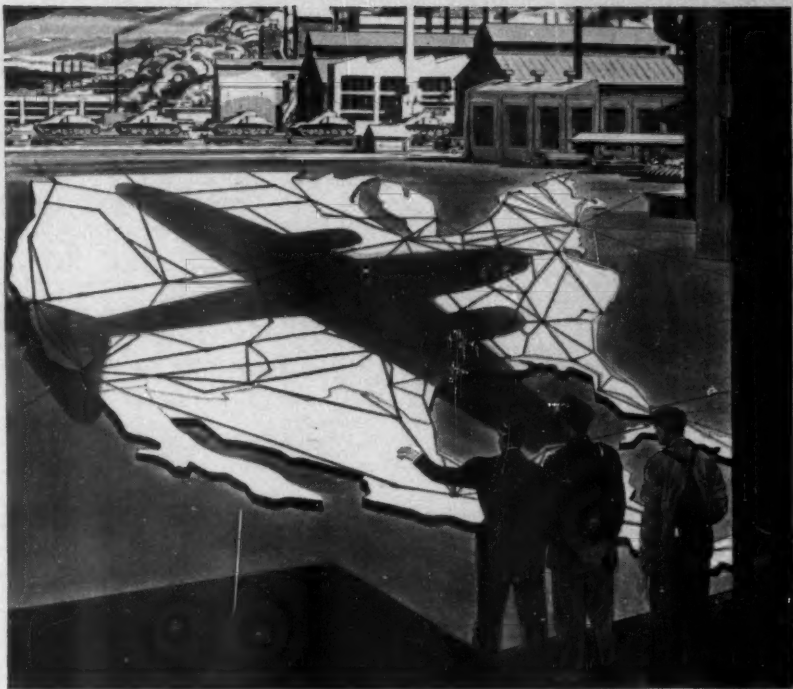
Many of the early air mail routes under civil operation in this country were pioneered

with them. The bush flyers in Canada and Latin America did a tremendous amount of trail blazing with them. They were used on floats and skis as well as on wheels and they were taken almost anywhere. Low landing speeds permitted them to get in and out of small areas.

The early Fairchilds, many authorities hold, figured so prominently in bush-flying operations that it can be said that without the Fairchilds the opening up of vast areas for mining and other development would have been retarded by an appreciable degree.

They were so important in Canada that Fairchild Aircraft Ltd., of Montreal, was formed in the late 20's to provide a Canadian factory for their construction and maintenance. That factory also developed one or two variations itself, the most outstanding being the Fairchild "Super 71" which was a single engine high-wing monoplane with a metal fuselage that was used to carry oxen and tractors among other cargoes into the Canadian wilderness. The high-wing design was important because it permitted the many ships that were operated on floats during the open season to tie up to loading platforms and piers with minimum risk of damage to the wings. They cleared most piling and other obstructions by a good margin. The FC-2 planes also had folding wings which reduced the danger of the airplanes being blown over when they were staked out in high winds.





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*Herbert J. Symington*

# Canada Plans To Fly The Oceans

## *Trans-Canada Air Lines' President Symington Gives Glimpse Into Air Future*

**C**ANADA, No. 4 power of all the United Nations, ranked only by the U. S., Britain and Russia, has no notion of sitting back and letting the future world of air commerce fly by over its head. It intends, on the contrary, to fight vigorously for a place in international air transport once the war is over.

Take that on the word of Herbert J. Symington, K. C., who as president of Trans-Canada Air Lines, the Dominion's big, Government-controlled, transcontinental airline, is probably Canada's top man in civil aviation.

Though Canada has no air transport manufacturing of her own, and though like Britain she is concentrating wholly on warplanes, neither Symington nor any loyal Canadian can forget that with 400,000 of Canada's sons trained in the air, Canada must create for herself a postwar air future. Not just in the Dominion itself—though admittedly few places on the face of the globe offer more air transport opportunities—but in the whole wide international air.

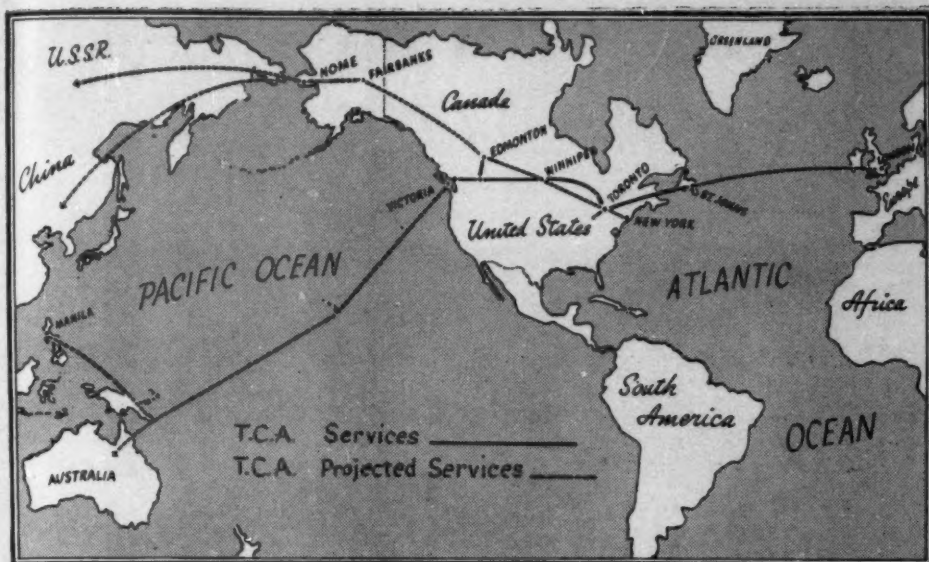
Today, with a far wider continent to cross than the part of it which is the U. S., Trans-Canada's planes soar through six standard-time zones from St. Johns, in Newfoundland, westward to Victoria and Vancouver, on the Pacific. Projected for the postwar future are lines to Alaska and on to Asia by the northern route (not started now because, by agreement, the U. S. is handling air transport exclusively in the far northwest), to Asia out across the Pacific from Victoria, B. C., and to Europe from Newfoundland along the airtracks of the ferry commands now operating to Britain.

The Canadian Government takes the view,

as outlined in the House of Commons this month by Prime Minister William Lyon MacKenzie King, President Symington points out, that air transport of the future must be determined by negotiation between the United Nations. In any such negotiations, Canada will hold a lot of cards, and with the Government directly backing Canada's biggest airline, it can be forecast that the cards will be well played.

For one thing, virtually all of the great circle routes—shortest routes by air from the U. S. to the major population centers of the Eastern Hemisphere, pass over Canada. That makes Canada the No. 1 candidate for cross-roads of the future air world.

President Symington was born at Sarnia, Ontario, in 1881 and was educated at the University of Toronto and Osgoode Hall Law School, graduating in 1905. A specialist in corporation law, he became a King's Counsel in 1915, a director of Canadian National Railways (corporate parent of TCAL) in 1936, Power Controller of the Dominion of Canada in 1940 and president of Trans-Canada in 1941.



*Map shows artist's conception of potential future international expansion of Canada's great Government-controlled transcontinental airways system.*

He has been associated with Trans-Canada, however, since its inception, taking part in the first survey flights made in 1937. Trans-Canada Air Lines now provides, with twin-engine aircraft, mail, passenger and express service over routes totaling 4,857 miles between the two seaboards.

Trans-Canada, in addition to its international plans, is projecting a shorter route for its Canadian transcontinental line, the new route to be over Lake Huron and Superior, instead of to the north of these "inland seas".

"Canada's national air line is destined to play an important part in world aviation," Symington said, "and Canada occupies an important position in the future of the air world."

In his recent annual report, he told of TCAL flight crews and supervisory personnel assigned to transatlantic service in 1942, supplementing crews of British Overseas Airways and of the maintenance and overhaul operations by TCAL personnel of Boat transports. Trans-Canada's 1942 air mail revenues were \$3,211,922, mail carried amounting to 2,308,812 lbs., an increase of 66 per cent. Air express revenues were \$173,020, cargo being double of that in 1941.

"The year's operations," said the president's

report, "gave a further demonstration of the increasing usefulness of the air line to the people of the Dominion. Covering Canada from sea to sea TCAL is an essential factor in national development and a powerful instrument in time of war. Further increases in passenger, express and mail traffic are anticipated in 1943. There will also be development in the field of special war activities engaged in by the company."

### ***Trans-Canada's Cargo Trebles 1941 Figures***

Air mail carried by Trans-Canada Air Lines in February more than doubled the amount in the corresponding month a year ago and air cargo (express) increased more than three times, according to figures released by Vice-President O. T. Larson.

Number of passengers grew from 5,765 to 9,462. Mail for the month totaled 257,336 lbs., an increase over February 1942, of 136,771 lbs. Express amounted to 47,834 lbs., as compared with 14,044, an increase of 33,790 lbs.

# AIR TRANSPORTATION NEWS



*An intensive course for new personnel in American Export Airlines' cargo and passenger department has just been completed under the direction of Dorothy Love (seated, center). Around her are the first graduates: (l. to r.) George Bright, Eliza Gough, Natalie Lambing, Pierre Barbet, Dorothy Arnold, Walter Hitchcock.*

## New Orleans, Gateway to Midwest, International Air Port at Last

Initiation of a Pan American Airways Latin American service in April through the Port of New Orleans (first to be authorized by the Government among a host of proposed new Gulf and Caribbean routes) will be along the historic north-south march of men and goods which 100 years ago made the Louisiana metropolis a more important international shipping center than New York.

Down the great Ohio and Mississippi Valleys flowed commercial traffic at a time when New Orleans was a roaring, boisterous, cosmopolite among its sister American cities. Progressively New Orleans took on dignity and progressively the east-west railroads and the Panama Canal nibbled away at the city's importance as the leading American seaport.

New Orleans still enjoys the position of a major American port. Now, with the coming of the transgulf airline, it will be at last an international gateway for north-south air

traffic, serving the 57,000,000 residents of 19 states in the Ohio and Mississippi Valleys when *Strato-Clippers* of Pan American establishes its new air highway.

The *Clippers* will fly from New Orleans to Guatemala City, to connect with the entire PAA-Latin American network.

Passengers from Chicago will be able to reach the Canal Zone, strategic U. S. military outpost, by way of the New Orleans gateway in about 21 hours. Other approximate flying times from major midwestern cities include:



## AIR-PORTATION NEWS

Twin Cities to Canal Zone, 24 hours; to Guatemala City, 16 hours.

Kansas City to Canal Zone, 21 hours; to Guatemala City, 13 hours.

Little Rock to Canal Zone, 19 hours; to Guatemala City, 11 hours.

Cleveland to Canal Zone, 23 hours; to Guatemala City, 15 hours.

For all its strategic commercial importance, New Orleans has had slow communication facilities with the Latin American republics. Six days are required to reach Guatemala City by rail from the Louisiana metropolis, and to reach it by the fastest of peacetime's steamship schedules with an overland half-day haul by train from Puerto Barrios required a minimum of four days.

The *Clippers*, developed by Pan American Airways in cooperation with Boeing, will cover 1,075 miles in voyaging from New Orleans to Guatemala City. The air travel time with an intermediate stop will be six hours.

"... it appears," said the Examiner's report accompanying the Civil Aeronautics Board's decision giving Pan American Airways the route certificate, "that the volume of trade between the mid-west and eastern industrial areas of the United States and the nations of Central and South America will continue to increase, with a resultant flow of travel and communication. . . ."

Proving flights on the new route under the auspices of the Civil Aeronautics Administration are now under way.

The transgulf airway, to be flown by 200-mile-an-hour, 22-ton, planes seating 33 passengers, lies almost directly north-and-south on a line drawn through Merida, near the north-west tip of the Yucatan Peninsula. Long isolated except for short-haul, narrow-gauge railway services on the peninsula proper, Merida is the center of Mexico's sisal fiber industry. Negotiations are in progress to provide an intermediate stop by the *Clippers* at Merida.

In 1937 the shipping area served by New Orleans turned out manufactured goods worth \$27,151,672,000. In 1938 exports valued at almost \$62,000,000 passed through New Orleans to Central America, South America, and the Caribbean area. Imports from Latin America through this gateway were worth almost \$68,000,000. Regularly, more than half the trade of the Central American Republics is with the U. S.

The new route will bring America's international commercial airway network to almost 100,000 miles, serving more than 60 countries and colonies.



*The new Boeing Stratotrainor designed by Boeing Aircraft engineers, makes possible at one time the training in high altitude procedures by an entire flight crew. The turbosupercharger was developed by Dr. Sanford Moss (right) and the General Electric Co.*

## Westchester County's \$3,500,000 Airport Is Nearing Completion

Though the fact that the Army probably will take over and operate the new Westchester County Airport for the duration the moment it is completed has made everybody concerned highly reticent about progress, the big new port is well along toward completion and construction may be finished by mid-summer.

A 500-acre tract located at the corner of the towns of Harrison, Rye and North Castle in the county just north of New York City, the new port received an allocation of \$3,500,000 of Federal funds for grading and runway construction. The county itself bought the land for approximately \$300,000.

Completion of the airport will give one of the nation's most populous and wealthy counties a full-fledged airport for the first time. Only port of consequence in Westchester has been a small privately operated field in Armonk, a few miles west of the new county port site.



*American Export Airlines and its parent, American Export Lines, are helping the War Bond effort in New York with a four-color billboard campaign, of which No. 1 appears overlooking the big ferry terminals at Dey and West Sts., Manhattan. Other boards are at strategic metropolitan points in and around the city.*

## Air Cargo Playing Ever More Vital Role In Isolated Bolivia

Air transport is undergoing a new spurt of development in Bolivia to serve wartime needs for improved communications between the high Andes and the rubber- and food-producing areas of the North and East.

In Bolivia development of transportation has leaped directly from the llama to the plane. Location of Bolivia's industrial centers on the lofty plateau makes this landlocked country particularly adapted to air transport rather than highways and railroads.

Today Bolivia's mines are busy turning out tin, tungsten and other minerals for the United Nations. In addition, Bolivia's northeastern lowlands area has a stake in Amazon basin rubber development.

Reports from La Paz, the capital, reveal that work under way includes construction and expansion of airports, runways and other air transport facilities. With the completion of these improvements, Bolivia's plateau centers of La Paz, Oruro, Santa Cruz and Cochabamba will be connected by a network of airlines with the food-producing lowlands and the

great rubber-producing areas of the Amazon basin.

Construction has been started by Pan American-Grace Airways on a modernized airport at Cochabamba. Designed to be one of the most complete on the South American continent, it will cost some \$750,000 and will have long, modern runways, subterranean fuel storage, radio and meteorological facilities, modern night lighting and accommodations for air travelers. As described in *El Diario*, La Paz newspaper, emphasis is being placed on complete airport facilities in a region where the high terrain increases risks in aviation. Panagra is planning a number of other airports in Bolivia and fields are being improved at La Paz, Oruro, Uyuni and Santa Cruz.

Further airport expansion is planned for Guayaramerin, terminus of the famous Madeira-Mamore Railway on the Mamore River at the Brazilian border. This airport will connect Bolivia with the little railroad which pierces the heart of the Amazon rubber country and winds down to the head of navigation on the Madeira River of the Amazon system. The same airport will link Bolivian air transport with the lines of Panair do Brasil, opening all of Bolivia to a transcontinental air route to the East.

## AIR-PORTATION NEWS

Guayaramerin is the site of a new medical center established as part of the health and sanitation program of the Office of Inter-American Affairs to serve rubber tappers moving into the Amazon rubber region.

Lloyd Aereo Boliviano is also taking part in the program of commercial air expansion in Bolivia. The program of LAB includes construction of a new airport building at San Joaquin, improved runways and buildings at Riberalta and a projected airport at Cobija.



**LONGEST** air ticket ever sold in Los Angeles by TWA is delivered to Warren Burman by Mrs. Modelle Hall, airline ticket clerk. Measuring 15 feet with its 61 coupons, Burman's ticket calls for 33 stops throughout the U. S. and Canada.

As contract administrator for Vide Products, aircraft parts maker, Burman is visiting aircraft plants on Army and Navy war orders, planning to complete his 10,115 miles of air travel in seven weeks, flying on 12 different airlines.

## Western Air to Cut Rates for Passengers; Will Others Follow?

A 10 per cent reduction in passenger fares is announced for Western Air Lines by President William A. Coulter. The new fares, effective immediately upon approval by the Civil Aeronautics Board, will be applicable only between points on the California-to-Canada system of WAL.

"The reduction has been established by the airline in the public interest," Coulter explained, "and follows the policy of the line which has long pioneered reduced fares."

Coulter said that this policy is consistent with the CAB's request to the nation's major air carriers to establish lower fares.

## Cargo Still Climbing: Combined Rail-&Air Express Up 113.5 Pct.

Significant of the increasing use of a combination of rail and air express by shippers located at points not directly on airline routes are February figures for this traffic, released by Railway Express Agency.

Of an estimated total of 114,210 air express shipments on the nation's commercial airlines in February, 29,646 shipments or 35 per cent, were transported in combined rail-air service. Average revenue per shipment on rail-air traffic was 32 per cent higher than the average revenue of shipments moved exclusively by air.

Gross revenue of this off-airline business, which either originated at or was destined to a non-airport city, or otherwise moved part way by rail, increased 113.5 per cent, while revenue from traffic moved exclusively by air increased only 26 per cent, the report indicated.

Expedition movement of this combination rail-air traffic is made possible through the fact that direct air express service at more than 350 airport cities is supplemented by rail express service to 23,000 off-airline offices served by Railway Express Agency.



**Flying Officer George "Buzz" Beurling, Canada's No. 1 ace in this war and hero of many stirring air battles with the Nazis over Malta, who is now in Canada on a furlough, gets the "feel" of the controls of one of the Lockheed airliners of Trans-Canada Air Lines. Snapped at the TCA airport at Moncton, N. B., after Flying Officer Beurling returned from a trans-continental trip, the Canadian air hero discusses the fine points of flying with Capt. J. R. Bowker, TCA pilot.**

## Pan Am Will Shift L.A. Terminal to Burbank

The Los Angeles terminal of Pan American Airways' far western international service to Mexico and Central America will be moved to the Lockheed Air Terminal in Burbank, Calif. around June 1.

In addition to a lease granting Pan American use of all facilities at the field, a terminal building and a hangar now are under construction. The terminal will include passenger lounges, communications rooms, offices and quarters for U. S. Customs, Immigration, Health and Department of Agriculture officials.

Through its affiliate, Compania Mexicana de Aviacion, Pan Am has been operating between Los Angeles and Mexico since 1929, using the Grand Central Air Terminal at Glendale. At present this service, using DC-3 transports,

operates daily in both directions and in February was further improved with the addition of facilities for night flying, making possible earlier departures southbound and better connections in Mexico City. As a result, flying time between Los Angeles and the Canal Zone has been cut from three days to two.

## PCA Wins Citation For 'Short-Haul' Work On 16th Birthday

The pioneer effort of Pennsylvania-Central Airlines in establishing a "short-haul" policy to bring many American cities closer together will be recognized by the National Aeronautic Assn. at a dinner in Washington on Apr. 26.

The date will be PCA's 16th anniversary.

PCA's President C. Bedell Monro is recognized among airlines as the father of the "short-haul". From his entry into the field he recognized that cities, as well as coasts and continents, should be brought closer together by aviation if commercial air lines were to be of the greatest possible use to travelers and shippers of air cargo.

PCA now employs about 2,000 persons, and has the rank of a major industry in Washington—perhaps the capital's only "war industry".

Associated with Monro in PCA leadership are: Frederick R. Crawford, identified with commercial aviation since 1927, executive vice president; James H. Carmichael, vice president, noted American aviator, and holder of the Congressional Medal of Honor; J. J. O'Donovan, vice president, identified with commercial lines since 1927, and PCA's oldest employee; Luther Harris, vice president and nationally known authority on aircraft maintenance and engineering, and R. J. Wilson, vice president heading the legal department. Among its pilots is R. L. "Bud" Baker, flier since 1919, now boasting 12,000 flying hours for PCA alone and working toward the 2,000,000-mile mark.

The company was an air mail operator, inaugurating service in 1927 over a 127-mile route between Pittsburgh and Cleveland with meager equipment. By 1942 it was operating a fleet of the latest model DC-3 21-passenger twin-motored transports over a 3,500-mile route, serving 40 cities in 12 states in the east, south and midwest.





## **Juan Terry Trippe**

### **President, Pan American Airways**

**B**UILDING the world's greatest commercial airline system in a mere decade and a half would be a sufficient achievement in a lifetime for most men, but at 43 Juan Terry Trippe, president of Pan American Airways, not only has brought that to fruition, but has the added gratification of watching it help win the war.

PAA, its divisions and affiliates are all busy today in the war efforts of the United Nations. Across thousands of miles of airways in scores of countries and territories big *Clippers*, *Strato-Clippers*, and other types of transports operated by the company are transporting vital war goods and personnel.

In addition, over routes pioneered, built, and put in operation by Pan American warplanes, military personnel and equipment of first importance to several fronts against the Axis constantly are speeding.

The man chiefly responsible for this achievement is mild-mannered and soft-spoken. His Spanish name stems from a Latin strain in his mother's family and instead of John, young Trippe became Juan when he was born in 1899.

With a family history that included liberal sprinklings of sea-farers and naval heroes, it was natural for young Trippe to turn to and to pioneer the 20th Century method of spanning oceans—through the air. The crude Wright-type planes that fluttered over his home aroused his boyhood interest in aviation.

After Yale came war and the chance to become a Navy pilot. His determination to complete a university education led him to return to Yale after the war, but later, in every minute he could spare he was flying his own plane over flat Long Island.

That led to his first airline, a fixed-base operating system with three old, creaky, but serviceable Army *Jennies*. By 1926 he had taken the first step that led to heading the great air transportation service that is Pan American; became general manager of Colonial Air Transport, a service between Boston and New York—the first U. S. transport airline.

But it was long-distance flying that had captured Trippe's fancy, and when Colonial's shareholders found Trippe's ideas

of extending the airline to Florida and using tri-motored planes too visionary, it wasn't long before Trippe and his fellow-believers undertook to tackle the start of an international service on their own. The result was America's first overseas commercial route operating on regular schedule, the 90-mile service from Key West to Havana that first was flown in 1927.

In the years that have followed, Pan American has spread a net of pioneering airways until today it serves several score countries from Alaska to Argentina and includes airlines in China, and across both Atlantic and Pacific.

Survey routes over Central and South America were one jump ahead of Pan American planes and regular schedules. To Trippe fell the work of meeting the stiff competition of European airlines bent on capturing the same territory.

An example of the speed with which Trippe's aviation vision grew was the fact that between February 1929, and February 1930, PAA's route mileage jumped from 261 to 13,000! Seven months later PAA planes were winging over every Central and South American country and PAA was world's largest air-transport line.

Over-ocean flying on long-distance schedule was next. First, the Pacific service in 1936; three years later transatlantic operations, although as early as 1935 Pan Am was set to inaugurate service to Europe. Technicalities forced postponement of its opening for four years.

The regularity with which transatlantic service is now conducted can be judged from the record of 1,000,000 miles of over-ocean service recently chalked up by the veteran *Yankee Clipper* in 240 crossings.

To Trippe's insistence on thorough training and preparation can be attributed the clockwork precision of all Pan American operations and its numerous records.

## ***AIR CARGO PERSONALITIES***

**Another in Air Transportation's New Feature Series**



***Juan Terry Trippe***

# Is Air Transport Forgetting the Small Town In Planning for Future?

## *There May Lie Vast, Unexplored Opportunity, Holds Executive Of Airline That Didn't Forget*

*Gliders in relation to CARGO-BY-AIR constitute a subject so vital and so interesting that AIR TRANSPORTATION has treated it several times before—and once before you have read in these pages a discussion of gliders by another executive of All-American Aviation—its president, Richard C. du Pont.*

*Not because AIR TRANSPORTATION's editors have gone daffy about glider pickups, but solely because Mr. Stringer brings to these pages an arresting view of missed opportunities, his article is here presented. Shippers outside the big cities which are already airline terminals will do well to heed his advice.*

By HARRY R. STRINGER

*Vice President, All-American Aviation Inc.*

**I**T is no prophecy that there will be a great expansion in commercial air transportation beginning immediately after the return of peace. It is a certainty. The expansion was impending when the war intervened. Ultimately, it will be accelerated by the recoil of war which has made the world conscious of the tremendous utility of the airplane as well as its fighting power.

Within the past few months, military air routes have been established throughout this country, and from this country to all parts of the world. Over these routes transport aircraft, many of them converted airliners which were designed primarily to carry passengers and not cargo, are moving troops, supplies and strategic materials which cannot wait on trains, or trucks, or ships. The tonnage they are moving is enormous. They are doing an incredible job and their performance has demonstrated the proficiency and versatility of the airplane. There now can be little doubt that much of the international commerce of peacetime will be air-borne. It is entirely possible that the military routes of today will be the nucleus of a vast system of world airways in the future. In fact, it is this field

that appears to offer the most immediate opportunities for the postwar expansion of civil air transportation.

When the war ends there obviously will be a surplus of aircraft production facilities, a surplus of pilots, technicians and mechanics and a surplus of airplanes. These facilities or airplanes cannot be junked, nor can these men, most of whom will want to keep on in aviation, simply be sent back to their homes, because, if for no other reason, public opinion in which this legion of airmen will then have an organized and articulate voice will not permit it. These conditions will give additional impetus to the expansion of air transportation although admittedly no peacetime system immediately conceivable will be able to absorb aircraft at the present rate of production, nor





**Harry R. Stringer is vice president of up-and-coming All-American Aviation Inc., the unique airline whose business is built on mail and express rather than passengers and on the famed pick-up system.**

all the airmen now being trained, either.

This is a provocative point because it is in the effort to make a dimensional forecast of the postwar expansion, especially in reference to air cargo, where opinions diverge and the future is not quite so clear. Our airlines, independently and jointly, are trying to get the answer. So are the railroads, the Railway Express Agency and the trucking industry which have a big stake in the freight business. So are the aircraft manufacturers who want to know what kind and how many planes to build for the job. Some universities have turned their research staffs loose on it. Independent aeronautical analysts are deep in it. The Civil Aeronautics Board and other branches of the government are studying it.

Judging by what has appeared in print, the net result thus far, is *confusion*.

### **Experience Sorely Needed**

The great difficulty is the dearth of experience or factual data on air cargo. Unlike the railroads which freight supports, the only cargo the airlines have been handling is mail and express, and it represents only a fractional part of their traffic. Air freight operations have been notably successful in Central and South America and other foreign countries, but they have not had to compete with

the best rail and highway system in the world which is our own. Statistical data on military transport operations is not available because of war secrecy. Figures on railroad and truck traffic are obtainable and costs are comparable and they seem to afford the best index of the future potential of air freight except that they have been cited by both the extremists and the realists to prove their points and predictions.

Under these circumstances, it is no surprise that the public lately has been treated in word and print to futuramas of air commerce showing winged leviathans, flying box-cars, trains of mammoth gliders and immense helicopters filling the heavens. Extremists among the visionaries, their imaginations soaring higher and farther than any airplane has ever flown, predict the day when aircraft will supplant railroads, and trucks and ships and all commerce will move by air. To them, the *modus operandi* is a mere detail. In 1942, the railroads carried 600 billion ton miles of freight, trucks about 40 billion ton miles more. Depending on their size, aeronautical and transportation authorities have estimated that it would require 40,000 to 600,000 airplanes to handle the rail traffic alone. Granting that enough airplanes can do the physical job, and selecting either figure, the problem of traffic control itself would utterly preclude

such an operation. Before the war domestic airlines were operating 364 ships, a fleet of infinitesimal size compared with the dream fleets of the future, but already traffic control was becoming a serious headache at some of our air terminals.

While the investors in railroads and trucking companies and shipping securities need have no nightmares over the possibility of the airplane putting them out of business, there is the stern stuff of reality in all these visions of our future air system, fantastic as some may seem. Transport aircraft which dwarf our present airliners in size and capacity are now flying. Glenn Martin has produced the *Mars*, a flying boat weighing 70 tons, and Henry Kaiser and Howard Hughes are preparing to build bigger ones. Military prototypes of future transport planes which will be able to carry between 15 and 30 tons of cargo are now unloading their lethal cargo on the enemy. The Curtiss *Commando*, designed strictly for cargo purposes, is operating on military routes. The Curtiss *Caravan* and the Lockheed *Constellation* which are said to be even larger cargo-carriers have had successful flight tests.

### **Nazis Proved Gliders' Worth**

Possibilities of gliders in commercial air transportation have been demonstrated by the Germans who used them in Norway and Crete, and are now using them in North Africa in transporting troops and supplies in large numbers and quantities. The Air Pick-up system by which cargo is collected and discharged by airplane in flight is constantly developing greater proficiency. And anyone who has followed the progress of the helicopter realizes that it is certain to have a tremendous effect on future air transportation and may even completely revolutionize present thinking and planning.

Thus, aviation potentially possesses the physical facilities for doing the job ahead, but in the final analysis the extent to which these facilities will be employed in the future will depend essentially on the economics of the undertaking. In war, cost is of no importance, but in peacetime it is the fundamental consideration and commerce normally moves by the medium offering the cheapest rate. To successfully compete with surface transportation for freight as distinguished from express, the cost of air transportation must be drastically reduced. Technological progress, and new operating efficiencies are gradually bringing this cost down but the day when it will

be within the range of ground transportation is still remote.

In estimating the effect air cargo may have on postwar growth of air transportation the figures on rail freight are often cited as an index of potential traffic. In 1941, the railroads moved, to use round figures, about 475 billion ton-miles of freight. Of this tonnage 62 per cent was coal, ore, lumber and other heavy commodities. This traffic moved at an average ton mile cost of less than one cent making it quite obvious that air transportation cannot compete in this bracket. The remaining 32 per cent, which consisted of manufactured goods, LCL freight and farm products probably offers some possibilities for shipment by air, although this traffic moved at an average ton mile rate of around 5 cents, much lower than any prospective air freight rate that has been quoted so far. While the ton mile rate of air express to the shipper is between 80 and 90 cents, actual carrier cost cannot be estimated because air express always has been handled by the airlines as incidental traffic. The over-all operating cost of air transportation is about 33 cents a ton mile. It has been estimated that the cost of operating the cargo ships that will be available after the war will range from 10 to 20 cents a ton mile, but even this reduction will still leave a substantial margin to overcome to enable air transportation to successfully compete for this class of freight. Proceeding from freight to express the potential for air traffic becomes more attractive. In 1940, LCL express totaled 1,600,000,000 ton-miles. Half of this traffic moved at first class mail rates and the other half at deferred or commodity rates. The average rate was about 11 cents per ton mile for all classes. The first class ton mile rate was about 18 cents. When costs are reduced air transportation will undoubtedly make sharp inroads in this field where speed and service are also important factors.

### **Why Not Air Parcel Post?**

The slogan "all first class mail by air" which has become a national advertising theme of aviation suggests another potential source of air cargo. However, a more practical plan and one that would be immediately productive would be to establish an air parcel post. Air mail now constitutes about 5 per cent of first class mail. Parcel post poundage in 1941 amounted to 3,530,011,091 lb. Assuming that air parcel post developed in the same ratio as air mail to first class mail, 176,500,554 lb. would have moved by air in this

period, which is eight times the volume of air express carried in 1942.

A discouraging and short-sighted feature of the post-war planning is that most of it is predicated on bigger and faster aircraft which is the policy that has been pursued in building of the domestic airline system. In the light of the lessons and developments of the past few years, it appears that this policy needs revision if the peacetime expansion in air transportation is going to mean much in terms of additional equipment and new routes.

The trend in airline development toward bigger and faster airplanes has been dictated by sound economy. This is not disputed. By reason of their increased capacity these aircraft can render more efficient service and they cost relatively less to operate. At the same time this course has restricted rather than promoted the growth of the airline system because the modern airliner as it has developed in size and speed has steadily lost its flexibility. It cannot be operated efficiently on routes requiring frequent stops because landings neutralize its speed. A recent study has disclosed that on a transcontinental flight making four intermediate stops 525 miles apart an airliner maintained a scheduled speed of 157 miles an hour or nearly 88 per cent of its cruising speed. On a flight of 570 miles making four intermediate stops 114 miles apart, the scheduled speed of the same airliner dropped to 108 miles an hour.

### ***Big Planes Limit Airports***

Normal growth of the airline system also has been adversely affected in another way by faster and bigger aircraft. Many cities have not had airports large enough to accommodate them. The expense of providing adequate field facilities discouraged many other communities that were seeking air service. The result is that the growth in the airline system has been mostly vertical. In other words, growth has been attained through flying additional schedules over the same routes rather than through expanding route mileage. For example, the airline system in 1936 measured 30,399 route miles. In 1941, it measured 40,910 route miles, an increase of 35 per cent. By contrast, the revenue miles flown by the airlines in the same period increased from 58,528,101 miles to 121,824,854 miles - 108 per cent. To do this flying the airlines operated 272 aircraft in 1936; in 1941 they operated 364, an increase of only 92. From the standpoint of aircraft employed, figures on

airline operations last year when they are made public will present a more striking contrast. This is quite generally known. It is no military secret, for instance, that early in 1942 a large percentage of the industry's aircraft were mobilized for war purposes, commercial service was curtailed and the airline system skeletonized possibly for the duration. Meanwhile, air express traffic has increased from 11,165,812 lb. to approximately 22,000,000 lb., air mail volume has jumped nearly 50 per cent and per mile passenger traffic has increased, all of which the airlines have handled efficiently with less than half the number of planes they operated in 1941. The record is a splendid tribute to airline management, but when it is analyzed in reference to post-war plans, it is a further indication that even though air traffic multiplies many fold the airline system will not require any tremendous number of additional planes to handle domestic expansion if it is confined, as it has largely been in the past, to its own ambit, especially since even bigger and faster equipment will be available at that time.

### ***Expansion Is Slowed Down***

A more graphic illustration of how conditions and influences produced by bigger and faster flying equipment have stunted the growth of domestic air transportation is reflected by the map of the present trunk line system. It covers only 250 cities and at a liberal estimate serves only about one-third of the population. In 1941, service to forty or more of these cities had been suspended mainly because their airports were inadequate. In 1934, the airline system covered 178 cities. Certainly, the expansion that occurred in this direction in seven years' time cannot be called impressive. The bigger and faster transport ships now on the way will obviously aggravate rather than relieve this situation. Strictly cargo operations will impose still another restraint. The vitiating effect of stops on scheduled speed in present airline operations already has been described. It will be felt more seriously in air freight operations because cargo cannot be handled with the same celerity as passengers. This will make fewer stops necessary on comparable air cargo routes if the service is to preserve its advantage speed over ground transportation, and that, of course, is imperative.

These circumstances make it plain that in order to make the benefits of air transportation available to all of the country instead of just to a handful of cities and a third of the

population, post-war plans for the expansion of the airline system must make definite provision for the establishment of short haul or feeder lines. Before the advent of the Air Pick-up system little or nothing in a constructive way had been done either by the Government or the air transport industry on a feeder problem. Such was the prevailing attitude at that time that it literally took not one but two acts of Congress to get recognition of the Air Pick-up idea. It was called impractical. Many said Air Pick-up lines would never haul enough mail to justify their expense to the Government. The service has now been in operation nearly four years. It provides direct air mail and air express service to 115 cities and towns in six states. These communities get the same air mail service as the trunk line cities. Their mail is not delayed a day by a rail haul from an air terminal which largely nullifies the value of the service.

The population of the communities on the Air Pick-up routes, outside of the terminal cities ranges from 500 to 120,000. They are an average distance of 17 miles apart. Some are only 5 miles apart. Most of them have no airports and of those that have only a few could accommodate a modern airliner. Since the service was started the air mail pick-up planes have flown 2,344,485 miles and have made 215,000 pick-ups and deliveries without serious damage to either cargo or equipment. The area served by the Air Pick-up routes lies chiefly in the Appalachian region where some of the worst and most variable flying weather in the country is encountered. Schedules are maintained at an average speed of 110 miles an hour. Although a pick-up plane on a regular run must always fly contact or within sight of the ground and it can never fly high because of the proximity of the ground stations, the system has consistently completed from 90 to 95 per cent of the schedules in the years it has operated, a performance record that compares favorably with that of the regular transport liners which can go "over the top" when the weather gets bad. Government officials have described this record as unprecedented for a new operation. It has even surprised the birds. Out in the Appalachians it is said they don't come out in the morning until they see the pick-up plane go by. From a trickle air mail volume on the lines has increased to a point where the postal revenues are more than paying for the cost of the service. It took the trunk lines nearly 20 years to reach this point.

The success of the Air Pick-up system has

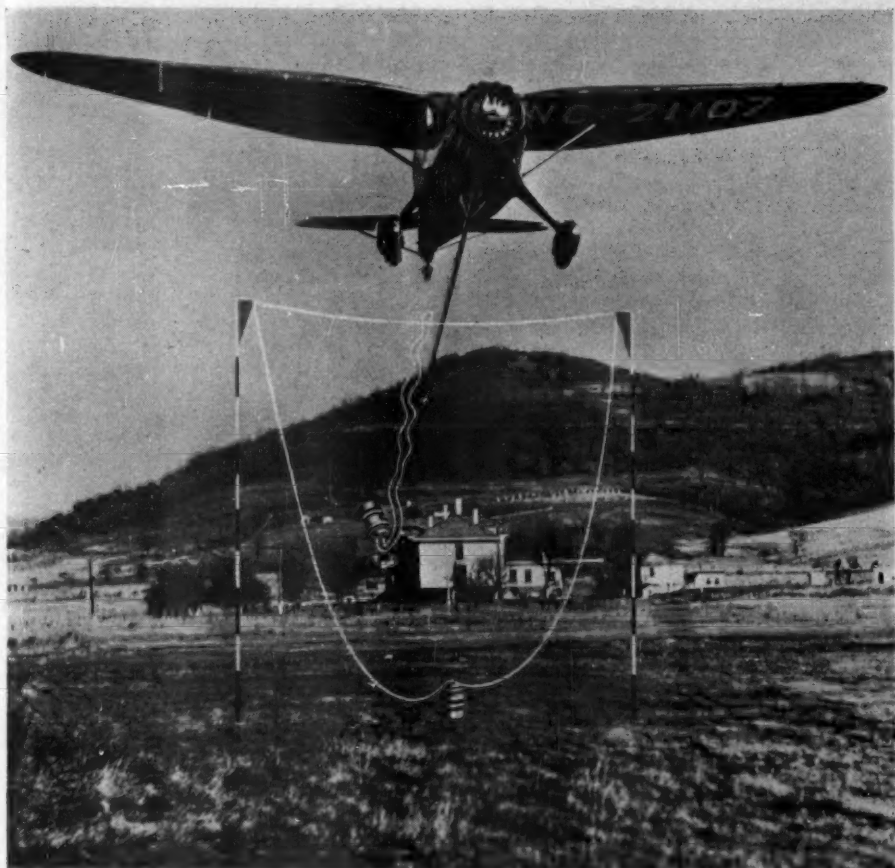
demonstrated that short haul air routes are practical and can pay their own way even though they can at this time carry only mail and cargo. At present, there are pending before the Civil Aeronautics Board applications for new pick-up routes which would add 25,000 miles to the airline system and extended direct air service to 1,500 additional communities. These prospective routes have only scratched the surface of the opportunity in this country for the establishment of Air Pick-up operations. There undoubtedly will be considerable post-war expansion in this direction.

### ***Gliders Hold High Promise***

As to the feeder problem, however, Air Pick-up lines are not the complete answer. There are several communities on the present pick-up lines and many throughout the country which could support passenger service. These communities have small but first class airports on which feeder planes could easily operate if the planes are tailored to fit the facilities of the community rather than making the community build airports to fit the planes. As feeder routes naturally will be short and it will be necessary for them to serve more points to properly render service they are going to experience more trouble with the problem of stops than the trunk lines. A combination pick-up and passenger plane which would make landings unnecessary except to handle passengers may solve this problem. The idea is entirely feasible. Helicopters also give great promise of providing the answer. Gliders, too, are a big possibility.

The spectacular achievements of gliders in warfare has started the air transportation industry thinking about their commercial adaptation and value. Air cargo men particularly have been interested because the glider appears to offer a practical and economical means of augmenting the payload of the transport plane which would be one approach to the problem of reducing ton mile costs. The study of their utility has provoked controversy as to whether better results could be obtained by building the extra capacity afforded by the glider directly into the tug. That question has yet to be satisfactorily answered. A very thorough analysis of this subject has been made by Richard C. du Pont, president of All American Aviation, Inc., who was among the first to introduce gliding in this country. All American pioneered the development and now operates the Air Pick-up system which is being rapidly adapted for





*All-American mail plane makes a pick-up and delivery. Outgoing cargo container rests on ground between station poles. Incoming container is being delivered in background.*

military use in launching gliders, a program that is being carried on by All American under contracts with the Army Air Forces. Mr. du Pont has expressed the conclusion that the best prospect for the use of gliders in commercial operations is on short haul or feeder routes. Over long routes, he has said, the airplane would be more efficient. However, Mr. du Pont has qualified his opinions to some extent by saying that the success of gliders in short haul operations will depend on the use of the Air Pick-up whereby they can be picked up as well as delivered at intermediate points non-stop. He has emphasized that if landings are necessary at these points, the size of the airports required for launching the gliders, the time lost on the ground in loading

and discharging cargo would make their value in air transportation dubious. On the other hand, he said, flexibility and speed, factors indispensable to the success of short haul lines, would be afforded glider operations by the pick-up method of operation.

In forecasting the future of air transportation in a post-war period, it appears that there will be—

**1.** A tremendous expansion, both in service and equipment, in international operations where surface transportation is slow, the routes long, and the stops few which will permit the maximum utilization of the higher speed transport aircraft of tomorrow.

2. An intensive rather than extensive expansion of the domestic trunk line system because of the inflexible pattern which large and fast aircraft have automatically imposed on its growth. For the same reason, expansion in terms of equipment will be moderate because the air transport of the future will be able to carry the same volume of traffic that several now handle.

3. A moderate expansion of air cargo through the development of a heavier volume of air mail, air express and perhaps an air parcel post rather than through heavy freight.

4. A widespread expansion of feeder lines including Air Pick-up routes, passenger

feeder routes, glider routes and helicopter routes. If nothing else, one thing that will bring about this expansion is, should an air parcel post system be established, Congress will not be willing to restrict the service to a few cities and a fraction of the population.

This picture will undoubtedly disappoint the visionaries. Yet their more extravagant predictions may eventually become realities. In view of the progress made by aviation, which all began as a "fool idea" anyway, their opinions cannot be entirely discounted by those who in trying to fly forward are constantly looking back at the past. Unquestionably, the world has entered the Air Age, and this age may produce a new economy and a new social and cultural structure in which all of the old concepts will have no importance.



*When Lockheed's mighty new Constellation first took to the air (Air Transportation, February) the man at the controls was Eddie Allen, who had also piloted Boeing's big Clippers and Stratoliners, Curtiss' Commando, many another big ship, on maiden flights. A few weeks later, on Feb. 18, Edmund T. Allen, Boeing's chief of flight test and aerodynamics research, went to his death with 10 members of his staff in another test flight at Seattle. Of him Edward P. Warner, of the Civil Aeronautics Board, was once asked: "Is it true that Eddie Allen was the first to coordinate piloting with aeronautical engineering?" To which Warner answered: "No, he was the second; Orville Wright was first."*

# Flying Boxcars Already A Reality On War Routes

## General Royce Breaks Army Silence To Tell Of Air Cargo Progress



Major General Ralph Royce

By JOHN M. KELLY

THE once jet-black hair of Major General Ralph Royce is gray and thinning, but his firm-set jaw still bespeaks aggressiveness. And the flying hero who is noted for many "firsts" that stud his career is too busy looking forward to new worlds for aviation to conquer to pause for reminiscence over past achievements.

During a recent visit to Michigan, General Royce, as speaker at the annual dinner of the Grand Rapids Chamber of Commerce, digressed from a prepared, War Department-approved manuscript to give voice to some of his personal views.

Touching upon the postwar place of the airplane in cargo freight carrying, General Royce declared:

"You do not hear a great deal about the steady progress which is being made in aerial freight. The fact is, we keep it under our hats," he declared. "But I am glad to be able to say that *air transportation* is progressing at a speed that would have been impossible in peacetime.

"By air we are transporting engines, tank parts, medical supplies and thousands of men to all combat areas. We now are operating what will become before long the greatest aerial transportation system the world has ever seen—a system of flying boxcars 'round the globe.'

"A submarine can't torpedo a flying boxcar. Although the plane can carry only a fraction as much as a ship, it can make many, many more trips."

The General mentioned specifically three aerial transportation lines now in operation.

"One line is to Australia and New Zealand," he related. "Another is to the British Isles. Still another is to the Far East, via South

America, Africa and India. One of their mainstays has been the converted B-24 [Consolidated *Liberator*] bomber, a plane that has an extremely long range, can carry a heavy load and is armed with machine guns to fight enemy planes.

"The new transports that are beginning to be produced are larger and roomier than ever before. The new Curtiss Commando can carry jeeps, field artillery and dozens of men and their equipment. Both Douglas and Lockheed are producing transport planes with unprecedented load capacities.

"These American planes and others will do for world transportation in the post-war era what the automobile did for land transportation."

On the importance of air superiority in the present war, General Royce continued:

"Air superiority is the first step toward victory. At the start of the war the Japs gave it to us in the air. We were vastly outnumbered, but we were not outfought. Our men outthought, outflew and outfought the Japs in every respect. The record speaks for itself.

## Furniture Makers Praised

"To attain air superiority we must have an overwhelming number of airplanes and we shall eventually have them, even though our foes also are producing planes as rapidly as they can."

Speaking in the Furniture Capital where erstwhile producers of Chippendale masterpieces now are turning out aircraft parts, General Royce paid compliment to the caliber of work which furniture craftsmen are performing.

"You can be proud of the part you are playing," he told the furniture manufacturers. . . . "I am cognizant of the potency of this state and of Grand Rapids in the war effort. You are turning out airplane and glider parts, guns and other parts that go into the war weapons and supplies. I have been especially interested in your glider program that has been carried out in furniture factories here, for in my command we have glider schools. I am also interested in the plywood that is being turned out here, for many of our training planes are made of it.

"I know that to many the extent of the industrial activity that exists here in Grand Rapids is not fully realized, but it is well known to the Army and the work you are doing here is giving a headache to some of the people on the other side of the water."

## In Air Force Since 1915

General Royce's career reads like a history of military aviation in the U. S. A native of Marquette, Mich., and graduate of West Point in 1914, Royce joined the Army Air Force on Sept. 13, 1915. The following year saw him piloting a Curtiss plane in the First U. S. Aero Squadron, attached to the punitive expedition commanded by General John J. Pershing in Mexico.

Sent to France early in World War I, Royce commanded the First Observation Group and won the *Croix de Guerre* for making the first flight by an American over the German lines.

Following that war, Royce, steadily advancing in rank, was given command of various flying fields and pioneered in long-range flying. He was with General Arnold on the famous Washington-to-Alaska round-trip flight of a bombing squadron. While commander of Selfridge Field, Mich., he was in charge of an "Arctic patrol" which conducted experimental flights in zero temperatures.

Royce was in China in 1934 and, for two

years, beginning in 1937, was Air Officer in the Philippine Department. There he gained knowledge that served him well on his next visit in the Spring of 1942.

In 1940-41 he went through the London blitzkrieg as American military air attaché. He accompanied the Harriman mission on its pioneer flight to the Middle East.

## Record Flight Over Manila

When Java was falling, he was assigned to duty in Australia. He served there as senior air officer of the Allied forces in the Southwest Pacific under Lieutenant General George H. Brett, commander. From an Australian base in April, he led a record flight by a fleet of Flying Fortresses on a 4,000-mile mission—longest military air operation in history up to that time. He and his companions raised havoc with Japanese shipping, downed eight Zeroes, bombed Japanese-held Manila, evacuated 25 Americans from the Philippines and returned to base in Australia without loss of a man. For this achievement, he was awarded the Distinguished Flying Cross by General Douglas MacArthur.

Later he commanded the Allied air forces in the northeast sector of the Southwest Pacific. Following that service he was returned to this country where he was given command of the Army's Southeast Air Force Training Center at Maxwell Field, Ala.

How soon does this grizzled, medal-bedecked veteran of 28 years of military flying think the war will end?

"Not until 1945," he predicts.

Which of our major Axis foes will capitulate first?

"Germany," is his answer, and he adds significantly:

"This is and will continue to be a more brutal war than the first World War. Our enemies have made it so and we must fight it that way."

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## England Has Opinion

Thank you for . . . the copy of your new paper, AIR TRANSPORTATION.

This is a particularly fine piece of work. . . . In launching AIR TRANSPORTATION you have chosen exactly the right moment for a publication of this kind. May I express my best wishes for your new venture?

OLIVER STEWART,  
Editor, "Aeronautics,"  
Tower House, London, WC2



# Saboteurs in the Sky Can Be Foiled by Proper Loading

## *Detroit's Colonel Evans Tells Traffic Men of Dangers, Forecasts Huge Cargo Growth*

COLONEL EVANS is no newcomer to the pages of AIR TRANSPORTATION. In December, his expert advice on the future of air cargo shipping, especially in relation to loading problems, was widely hailed by readers.

Recently, he elaborated on the danger to the whole war effort that arises from improper loading of freight—whether it be air, rail or highway freight—in an address to the Traffic Club of St. Louis. His article here is based on portions of that address, which should especially interest the throngs of traffic men throughout the U. S. who read AIR TRANSPORTATION.

By COLONEL EDWARD S. EVANS  
President, Evans Products Co.

**T**ODAY we are all enlisted in the war of production and supply. Whether our products are shipped by air to Guadalcanal, to Africa, to our good neighbors in South America, to Alaska—or whether they are shipped by truck from factory to factory in the pooling of resources—or whether our problem is the heavier loading and faster turn-around of box cars, we all have a common enemy.

This enemy is not on Hitler's or Hirohito's payroll. But he is working profitably for them on our own home front to defeat us on the battlefield.

I refer to the slackers and saboteurs riding the rails, highways, and skyways. Damage to goods in transit, whether carried by train, plane or truck to ports of embarkation or to final assembly lines in war plants, is as effective to the cause of our enemy as saboteurs working within the confines of our own factories.

Loading problems have been with us through the ages. And it is their very age and the habits that have been built up in our minds over many centuries that make scientific progress in this art so difficult.

The same rules for crating and boxing used

during the last war, some of which I wrote myself, and which, in my opinion as a loading engineer, are obsolete, still are used by the Army and Navy today. In fact, some of these methods, obsolete in view of modern progress, date back as far as the Civil War.

Here we are, with our methods of transportation on land still undeveloped, wasteful and inadequate, and we are about to make the great transition from land transportation to that of air. Certainly the competition that air is going to offer us will arouse us to maximum effort to meet it by modernizing our standard methods of today.

And right here I would like to read a brief quotation:

"I BELIEVE THAT WE ARE GOING TO SEE  
GREAT AIRLINERS TRAVELING AT HIGH

SPEEDS, CARRYING FROM 50 TO 100 TONS WHICH WILL BE USED FOR TRANSPORTING OUR FREIGHT."

That and similar statements have appeared a number of times recently in the daily press. Yet that very statement I have just quoted is an excerpt from an address which I made before the United States Chamber of Commerce in October 1929—nearly 14 years ago. Yes, this prediction is now becoming a fact.

The time is not far distant when we will see giant cargo airliners weighing 250,000 pounds and upward. They will travel at speeds of three and four hundred miles an hour and have a cruising range from three to eight thousand miles. Their payload capacity will run as high as 60 per cent of their gross weight—"flying freight cars" in every sense of the word.

These are not mere conjectures or day dreams. They are actualities that are in the making and now being planned.

While the current air cargo program started with the conversion of the well known passenger airliners—the DC-3—there are already in production larger ships designed especially for freight transportation.

But do not misunderstand me. Air freight planes and aerial freight trains are not being designed to—and never will—replace transportation by rail and truck.

But in any event you men, shippers and traffic specialists, are primarily concerned with the safe transportation of war and post-war goods and the causes and elimination of costly damage in transit which is sabotaging the war effort.

How long do you think the tanks used in World War I would stand up in modern combat? Yet many of the loading methods employed in that war are still in use today in the battle of supply—a battle which stretches over three continents and seven seas on more than nine battlefronts.

But the astonishing thing about loading problems<sup>8</sup> is that their solution is very simple. And this reminds me of a story.

A Negro came out of his house one morning all bent over and met a friend. The friend said to him, "My goodness, George, what's the matter? You're all bent over. You must be sick." George replied, "I don't know what's the matter. I haven't been able to straighten up since I got up this morning." The friend

said, "You should go and see a doctor"; and George replied, "That's just where I'm going." When they arrived at the doctor's, the friend, darky-like, said, "You go in by yourself, George, I'll wait out here for you." In about five minutes George reappeared, all straightened up, strutting. His friend said to him, "My goodness, George, that must be a good doctor. It didn't take him very long to get you straightened up, did it?" And George replied, "No, but he found there wasn't very much the matter with me. He found I had buttoned the top button of my pants to the third button of my vest."

Yes, the cure for most of our loading problems is comparatively simple once you know the causes. In this case, as I have said, when you eliminate slack from the load you eliminate the basic cause of damages. And I am glad to say that the cause has been eliminated by modern engineering methods, not only on the rails, but on the highways and skyways as well.

This engineering development has also eliminated the waste that now enters into excessive crating, boxing and shoring of cargoes. *New competition and the tempo of post-war business make it absolutely essential that we eliminate damage and waste.*

Damage is not only an Axis agent on the rails and highways but is taking a toll of our cargoes in the air. In airplane loading our problems are quite different. Aircraft is not subject to the impacts of shunting as are freight cars. But in airplanes you do get vertical shock due to down and up currents of air and also side strains due to rough weather where the plane is apt to wobble or tilt violently.

### ***The Drum That Fought Back***

In one instance I know of, a drum of oil came loose in rough weather and rolled back to the stern of the plane with such force that it smashed partitions and endangered the controls. The pilot, in order to save the ship, nosed it down, and the drum came hurtling back. It was only at the risk of his life that the co-pilot was able to lash the drum in place again.

In another instance, an airplane engine, improperly secured, burst through the side of the plane and fell to the ground, endangering the plane and the lives of the pilots.

Many instances have occurred where the

cargo shifted so badly and the center of gravity was changed so radically that it was all that the pilot could do to land his plane successfully and avoid a crash.

Green crews add to our woes in the air as well as in other means of transportation. An Army officer, inspecting the loading of a plane, saw a Negro putting a small box underneath a very large box. This small box was about 12 inches square, and the large box about 3 ft. by 5 ft. The officer asked the Negro why he didn't put the small box on top, and the Negro's answer was that the small box would not hold the big box down, but that the big box would hold the small box down.

### ***Railways Must Look Ahead***

In another case, a Negro loader had tied a great knot as big as your two fists in an effort to fasten part of the cargo. The officer asked him, "How in the world will the people at the other end be able to untie it?" The answer was, "Lord, before it gets to the other end it will be all loose!"

There is equipment for airplanes used either for cargo or for litter carriers in ambulance planes designed for permanent installation in such planes, which weighs about 200 lbs.

**We are living in an age of commercial revolution. All of the old standards under which we have lived are being done away with by the methods and developments of modern genius. We will live to see not only mail and express but also high class freight take to the air. We will live to see a readjustment of transportation between the railways, the skyways, and the highways, in which each will have its proper place, and its proper share in the business.**

I am not of the school that believes that railroads and truck companies should ignore skyway competition.

Articles recently published have been unfair to the railroads in that they have led the readers to believe that the competition which railroads would have after the war are represented by the present-day converted DC-3 planes. These were said to carry 2½ tons of freight although actually every day they are carrying four tons of freight. But no mention was made of the competition railroads will have from the freight transports that are already on the drafting boards or are projected, such

as the C-69 which carries 32,000 lbs. of freight at 300 m.p.h. or the *Mars* [see *AIR TRANSPORTATION, November 1942*], which carries 64,000 lbs. of freight, or the proposed Kaiser ship which will carry 150,000 lbs. of freight. Nor has there been anything said about glider trains where one train can carry three times the amount of freight with the same power as the plane and with a reduction in speed of only 25 per cent. Nothing has been said of future developments where low-priced fuel can be used.

Today air freight costs 40 cents a ton-mile. New ships already designed can carry freight for 10 cents per ton-mile. Glider trains can carry freight for three cents per ton-mile. Compare that with your express rates and with your first class freight rates today and see where we are going.

The impacts of the war will probably result in some disruptions and dislocations when peace comes. Our nation, for years after the war, will be a supply center for all the nations of the world, and modernized loading will be necessary to meet competition.

Any new idea advanced, no matter in what field, requires the education of those who are to be benefited by it. The way to bring about the adoption of more modern methods in stowing cargo is for each man who is interested whether he represents carriers or shippers to investigate modern methods in use. He should then present his findings and express his wishes where they will bring the proper results.

### ***Attack This Waste Now***

It is increased capacity and the elimination of costly damage that today are our most urgent needs toward which shippers, traffic men and engineers should bend their best efforts.

Millions of dollars worth of material and millions of man hours are being wastefully used in today's freight loading, all of which should be used in the war effort.

I earnestly believe if any of us caught saboteurs at work in our plants we would courageously attack them—and destroy them. The slackers and saboteurs on the railways, the skyways, and the highways are just as vicious and just as detrimental—let's do something about it!

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***Keep 'Em Flying . . .  
Buy War Bonds***



# Middle America: Air Cargo's Land of Promise

*Vast Resources Plus Poor  
Surface Transport Make  
It Air Freight Laboratory*

*Monday, April 12, was the opening day of the Pan-American Week, celebrated in New York by the Latin American Section of the New York Board of Trade Inc. and the Middle America Information Bureau, the latter operated by United Fruit Co., with a one-day institute of Middle America and the U. S., with special accent on their interdependence. Among the speakers there on many subjects connected with Central American affairs was John F. Budd, AIR TRANSPORTATION's editor and publisher, whose address appears below.*

By JOHN F. BUDD

**M**OST of us read, a few days ago, the full-page newspaper ad signed by Captain Eddie Rickenbacker which carried the smashing, big-type headline, *Air Cargo Is Here!* The ad, as you'll remember, went on to tell how, several months ago, Captain Rickenbacker's Eastern Air Lines had inaugurated the nation's first regularly-scheduled air cargo service—overnight, every night, between New York and Miami.

All of us applaud, of course, the foresight and the planning which has gone into this great airline's creation of this new service. It is, as Captain Rickenbacker very well says in the ad, revolutionary—"for not since the introduction of the multi-engine, ultra-modern passenger plane . . . has the field of air transportation been so immeasurably widened."

But the fact is—this business of air cargo is far from being brand new—even with Rickenbacker. I remember an article in *Fortune* as long ago as March 1941 (somehow that seems ages ago right now) in which this same Captain Rickenbacker was talking about air cargo and on that very same route: New York to Miami. He gave this forward-looking illustration of what was soon to come:

" . . . a hypothetical consignment of 800 tons of freight must be taken from New York

to Miami in two weeks' time. The choice of transport is between truck and plane. If trucks are used, 40 will be required, since each one carries in the neighborhood of 10 tons and makes the round trip from New York to Miami in about a week. On the other hand, counting fuel stops and overhauls, a big plane can make 10 round trips weekly, carrying eight tons per trip. Given two weeks, five of the planes can do the same moving job as forty of the trucks."

That is just a faint taste of the future wonders that air cargo is going to bring to our own country. I say "going to bring."

But while most of the talk about air cargo is either in the future tense or under the cloak of military secrecy—so far as our own country is concerned—we have some neighbor





**MIDDLE AMERICAN RUBBER** flies from Nicaragua to aid the war effort—just one way in which air cargo is helping to bind Central America closer to the U. S.

countries to the south of us who are far, far ahead of us.

In fact, they are so far ahead that one can almost say that *air cargo was invented in Middle America*. And yet today it has only scratched the surface of the benefits it can bring to the countries of Central America—and to us—in the remaining period of the war and afterward.

### **Cargo Flew 10 Years Ago**

It wasn't just last year—it was 10 long years ago (which is something like a century or two, relatively speaking, as things go in aviation) when Middle America got its first air cargo service—started an air cargo service, too, from scratch. It took one little Stinson plane, \$25 in cash and plenty of ideas and plain guts to do it, but that was how Lowell

Yerex started out with the company that today owns some 60 airplanes, serves 115 airports on regular schedules and 90 more on charter, employs around 400 men in the air and on the ground and operates 34 radio stations. Most of you know the name of that company—TACA or, to say it in full, Transportes Aereos Centro-Americanos Ltd.—today very probably the world's largest carrier of air freight outside of the globe-girdling but somewhat secret operations of the United States Army's Air Transport Command.

Of course, there are many reasons—and good ones—why air cargo has been slower in development within the United States and will continue to be slower than in Middle America. All of us do a great many pioneering things mainly because we're forced to. Here in our country we have the world's finest railroads, the world's best highways and millions upon

millions of trucks and automobiles (even if gasoline isn't so plentiful right now). It has not only been a lot easier—it has been, so far, a lot less expensive—for us to use our rails and our roads and our trucks to carry our goods.

But Middle America has neither the railroads, the highways or the trucks that we have north of the Rio Grande. True enough, the great Pan American Highway—of which you will undoubtedly hear a great deal more today—is being pushed toward completion. But for ten solid years now, the airplane has been the major means of opening up the resources of the Central American republics.

### **Trade Expansion Rapid**

The air cargo planes of TACA and the passenger-plus-cargo planes of Pan American Airways and Panagra have already opened up trade unbelievably within and between the Middle American countries. Take the simple matter of fresh food, such as butter, eggs, cheese. The port of La Ceiba, for instance, not so long ago had a hard time getting products like these at all. It was a fruit port, little more. Plenty of butter and eggs and meat and the like were available inland—but too far away to be brought out to La Ceiba over the practically non-existent roads except at prohibitive cost and at the risk of almost total spoilage. But now, thanks to TACA's freight planes, the people of La Ceiba get all they need from the grazing lands of the interior. There has begun the kind of interdependence between one part of a country and another which, in time, will make the political disturbances of the past a practical impossibility.

That's just a tiny illustration. Freight planes are taking tractors to remote back-country plantations as well as bringing out the product of farm and mine and jungle. The fact that we can still buy chewing gum, in spite of the big wartime demand and the lack of surface shipping, is due very largely to air cargo down in Middle America. There are some gold mines in the isolated heart of Nicaragua that need oil critically with which to operate their machinery. Today they get it—flown in at 600 gallons a trip by a TACA plane that's probably the only commercial air tanker in existence in the world (though I suspect the Army has used the idea on plenty of occasions it doesn't, for obvious reasons, talk about). These cargo planes even carry

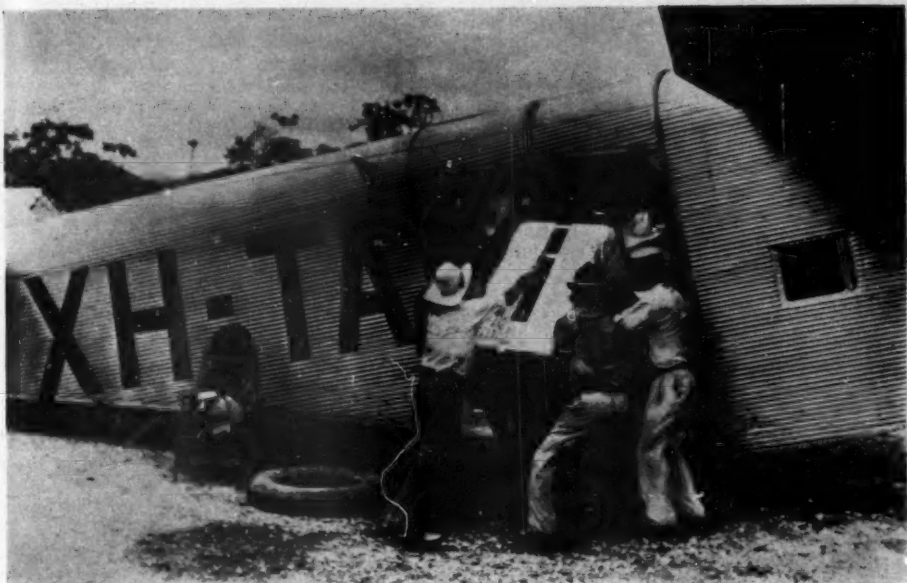
cows and horses and mules to help open up new areas where livestock are needed.

### **Islands Are Important, Too**

Of course, when we speak of Middle America, we naturally mean not only Central America as we learned to define it back in grammar school, but also the island nations that ring the Caribbean on the east. Here, too, air transportation has been—and is—a mighty force for progress. Of course, it hasn't been quite as astonishing and spectacular as it has been in the mainland of Central America. The islands, for one thing, have always had the sea as their major highway to our country, to Europe and to South America. And for another, they were the scene of the first beginnings of the greatest of all our airlines, Pan American. It's hard to believe now, but it was 16 years ago when Pan American inaugurated the then daring job of carrying passengers and mail between Key West and Havana. Then came the sea jump across to Merida and on down to the Canal Zone, and eventually the great network which Pan American and Panagra and Panair do Brasil and other affiliates operate from Miami, Brownsville, Laredo and Los Angeles in the United States down to Santiago and Buenos Aires, with their network of thousands of criss-crossing miles and hundreds of stops in between. Pan American, too, has just made news with a new airline, to be opened this month—and that is news, for the Government isn't handing out permission to open up new lines very often these days. As many of you know, the central south will get a great international air terminal for the first time, when Pan American opens its new link from New Orleans southward across the Gulf of Mexico to join its existing system at Merida.

### **Hours Now Instead of Days**

And this, too, will mean a lot to Middle America. From the standpoint of either travel or cargo-carrying, it brings Chicago within 21 hours of Panama. It brings Kansas City within 13 hours of Guatemala City—less than the time it takes to reach Detroit from New York by train. How much time did the trip take before, you may ask. Well, by rail, if you wanted to try it, it took you *six days* to reach Guatemala City from New Orleans. By the fastest ships—and that means



**MIDDLE AMERICAN WORKERS** unload a 3,280-lb. motor generator unit at a TACA airport in the heart of Nicaragua jungles. It will be used in extensive mine operations.

ships running on peacetime schedules before we had all the uncertainties of wartime shipping—plus a transfer to train at Puerto Barrios, the seaport for Guatemala City—it took a minimum of *four days*. The air travel time from New Orleans to Guatemala City by the new Pan American line will be *just six hours!*

Of course, not all of the dividends of air cargo—not all of the benefits it can bring to Middle America and to us—are possible until after the war. The bulk of Pan American's traffic, so far as cargo is concerned, like the bulk of every other airline's traffic, is in war materiel.

But once the war is over and air cargo is free to expand as it will and must, the forgotten countries of Middle America will be forgotten no more. The so-called "banana republics" at which some of us have at times looked down our noses—or more likely, which to us have been merely half-forgotten names out of childhood geography books—will be forgotten no more. The resources in mineral and agricultural wealth which have remained so long untapped will start coming out—by air. The economy of nations that have too long depended on the banana crop and little else will be transformed. The standard of

living of the people living in these countries will be lifted—not only by the money which their then available products will bring in to them, but also by the products of our own nation which can be flown in to them.

In the case of Middle America, we know that this forecast is no pipe-dream. We have seen, in the ten years that have passed, what air cargo starting on a shoestring could accomplish in these countries—how the airplane at one move has advanced these countries from a muleback economy, skipping entirely the century and more which it took us to develop our huge and expensive system of surface transportation.

Middle America—perhaps more than any other section of the world, surely more than any other part of our immediate hemisphere—is indeed air cargo's land of promise. It is a promise that is already started on its way to fulfilment in the great laboratory of air cargo experience that has already been built up there. And it is by no means unlikely that out of these countries which so many Americans once thought so backward may come lessons in how to transport cargo by air which will go a long, long way toward bringing about the air cargo age in our own country as well.



**TO** G. W. VAUGHAN, president of Curtiss-Wright Corp., who has announced the formation of a new division of that organization to be known as the Development Division. The new unit, which marks the fourth division of the corporation, will provide a means of implementing collaboration on engineering problems relating to the other three divisions in their all-out production of warplanes, engines and propellers for the war effort and also will anticipate the development of new products and new markets in the postwar period. A factory for research and development has been acquired in New Jersey.



**G. W. Vaughan**

**TO** PETER F. ROSSMAN, of Buffalo, chief of development research in the airplane division research laboratory of Curtiss-Wright Corp., who has been appointed general manager of the newly formed Development Division of the corporation.

As America's largest and oldest producer of airplanes, engines and propellers for the war effort, Curtiss-Wright already has three divisions operating plants employing tens of thousands of workers: *Curtiss-Wright Airplane Division*—which manufactures an impressive series of Curtiss transport, fighter, dive-



**Peter F. Rossmann**

bomber, scout observation, trainer and miscellaneous aircraft types for the U. S. Army Air Forces, the U. S. Navy and the United Nations (*Warhawk*, *Kittyhawk* and *Tomahawk* fighters, *Commando* and *Caravan* transports); *Wright Aeronautical Corp.*—which produces aircraft engine types ranging from 450-hp. Whirlwind types to 18-cylinder Cyclones of the 2,000-hp. series, recognized by the War Department as the most powerful service aircraft engine in the world; *Curtiss-Wright Propeller Division* which manufactures a complete line of Curtiss electric propellers that are standard equipment on numerous aircraft types of the U. S. Army Air Forces, the U. S. Navy and the United Nations.

**TO** WELLWOOD E. BEALL, chosen vice president in charge of engineering of Boeing Aircraft Co., and to EDWARD C. WELLS, named to succeed Beall as chief engineer; ALBERT C. REED, chief test pilot and flight test unit chief, who will take over supervision of all engineering flight testing formerly under the late Edmund T. Allen [see page 34]; LYSLE A. WOOD, formerly executive engineer, now assistant chief engineer, and N. D. SHOWALTER, chief project engineer.

In his new executive position Beall will supervise the entire Boeing engineering division. Beall joined Boeing in 1934 and as chief project engineer in charge of all commercial projects, supervised development of two of the most famous airplanes in the world, the Boeing *Stratoliner* and *Clipper*. He was personally responsible for the basic design of the latter.

The four-engine *Stratoliner* was the world's first pressurized-cabin commercial transport, designed to operate in the smooth upper air with complete comfort for passengers. The Boeing *Clippers* inaugurated regular scheduled air service across the Atlantic Ocean and also operate extensively on Pacific routes. A Boeing *Clipper* was selected to fly President Roosevelt on his crossings of the Atlantic to and from the Casablanca conference.

Wells has been on the Boeing engineering staff since 1931. He was responsible for the basic design of the Boeing model 299 bomber, prototype of the *Flying Fortress*, and has contributed to most of the improvements made in the *Fortress* since its origin eight years ago. In January he was presented the Lawrence Sperry Award for 1942, given annually for notable accomplishments by young men in the advancement of aeronautics.

As supervisor of engineering flight testing,



## CONGRATULATIONS FROM A.T. . . .

Reed will carry on the carefully formulated flight research program developed by the late Edmund Allen. He has been with Boeing since 1939.

**TO** CAPT. JOSEPH H. HART, JR., Greenwich, Conn., Pan American Airways pilot with a name for himself already, who has just rung up Record No. 3.

Just two months after Capt. Hart was credited with a world's record in continuous transatlantic crossings, he and his *Clipper* crew of 11 returned to their home base here last month after making a round-trip shuttle of the South Atlantic in 23 hours, 59 minutes—first time a commercial plane had twice flown the ocean in a single day. A Pan Am maintenance crew at an African base which serviced and refueled the *Clipper* in 50 minutes was credited with making the record possible.

Last January, Hart set a world's record in transatlantic hops by shuttling back and forth 12 times in 13 days, 15 hours. In March 1942, the 35-year-old skipper piloted *Clippers* over the same Atlantic course six times in 9 days, 15 hours. A Pan Am veteran with 10 years of service and 9,000 hours of flying time,

Hart flew out of *Clipper* bases at Miami, Haiti and Brazil from 1932 until he was transferred to the Atlantic Division in 1938, with headquarters at LaGuardia Field, New York.

**TO** three new holders of supervisory positions with AMERICAN AIRLINES: THEODORE P. GOULD, former New England superintendent of reservations and ticket offices, now manager of reservations and ticket offices with headquarters in New York; LEONARD J. BOYLAN, now Eastern superintendent of reservations and ticket offices; GEORGE SCOTT, now New England superintendent of reservations and ticket offices.

**TO** WALTER STERNBERG, formerly northwest-ern division traffic manager at Chicago for Eastern Air Lines, who became assistant general traffic manager of the company on Mar. 1, according to announcement by Paul H. Brattain, first vice president. His new headquarters are in the Eastern Air Lines Building, Rockefeller Plaza.



# Shipments to MEXICO

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## International Express and Mail Tables

Express rates quoted are from the U. S. international airport of departure and are based on the latest prevailing tariffs. Shippers are warned, however, that they are subject to change.

Bro—Brownsville, Tex. Lgs—Los Angeles  
Cg—Chicago Mia—Miami  
Cub—Cut Bank, Mont. Nyk—New York  
Eo—El Paso Sq—San Diego  
Fv—Fort Worth Ste—Seattle  
Gf—Grand Forks, N. D.

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per \$100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

**Priorities:** The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it en-

joys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Shippers should forward cargo to international airports as far in advance of desired departure as possible and should communicate via **Railway Express Agency, Inc.** with the international air carrier as to whether the shipment can be forwarded without priority, as shipments without priority for certain countries are, at present, under embargo. (On cargoes to be shipped via American Export Airlines, Inc., shippers should inquire at their office, Room 920, 25 Broadway, New York.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport:

A—American Airlines.  
C—Colonial Air Lines.  
E—American Export Airlines.  
NW—Northwest Airlines, Inc.  
P—Pan American Airways System and affiliates.  
T—Trans-Canada Air Lines.  
U—United Air Lines.  
W—Western Air Lines

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/4 Oz.
		Per Lb.	Per \$100 Value		
<b>LATIN-AMERICA LINES</b>					
Antilla, Cuba.....	Mia P	.24	.25	Dly	.10
Antofagasta, Chile.....	Mia P	1.26	.50	M,W,Th,F, Sa	.40
"	Bro P	1.34	.50	Tu,W,Th,F, Su	.40
"	Lgs P	1.95	.50	M,Tu,W,Th, F,Sa	.40
Aracaju, Brazil.....	Mia P	1.26	.50	Su, W	.40
"	Bro P	1.71	.50	M, F	.40
"	Lgs P	2.28	.65	Su, Th	.40
Arcia Branca, Brazil.....	Mia P	1.24	.50	Su	.40
"	Bro P	1.55	.50	F	.40
"	Lgs P	2.13	.50	Th	.40
Arequipa, Peru.....	Mia P	1.23	.50	Dly	.30
"	Bro P	1.26	.50	Dly	.30
"	Lgs P	1.93	.50	Dly	.30
Arica, Chile.....	Mia P	1.25	.50	M,W,Th,Sa	.40
"	Bro P	1.26	.50	Tu,W,Th,F, Sa	.40
"	Lgs P	1.94	.50	M,Tu,W,Th, Sa	.40

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		
Asuncion, Para.....	Mia P	1.73	.50	Su,F	.40
"	Bro P	1.86	.50	W,F	.40
"	Lgs P	2.43	.65	Tu,Th	.40
Bahia, Brazil.....					
(See Sao Salvador)					
Balboa, Canal Zone.....	Mia P	.78	.40	Dly	.15
"	Bro P	.90	.40	Dly	.15
"	Lgs P	1.45	.50	Dly	.15
Baracon, Cuba.....	Mia P	.28	.25	Dly ex Sa	.10
"	Mia P	.85	.40	Dly	.25
"	Bro P	1.17	.50	Dly	.25
"	Lgs P	1.78	.50	Dly	.25
Barranquilla, Colombia via Kingston.....	Mia P	.61	.40	Su,Tu,W,F	.35
"	Bro P	1.03	.40	Dly	.35
"	Lgs P	1.59	.50	Dly	.35
Bauru, Brazil.....	Mia P	1.65	.50	Su	.40
"	Bro P	1.71	.50	F	.40
"	Lgs P	2.28	.65	Th	.40
Belem, Brazil.....					
(See Para)					

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/4 Oz.
		Per Lb.	Per \$100 Value		
Bello-Horizonte, Brazil	Mia P	1.65	.50	Su,M,W,F	.40
"	Bro P	2.13	.50	M,W,F,Su	.40
"	Lgs P	2.89	.65	Su,Tu,Th,F	.40
Buenos Aires, Argentina	Mia P	1.56	.50	Dly	.40
"	Lgs P	1.70	.50	Dly	.40
"	Lgs P	2.26	.65	Dly	.40
Cali, Col. via Balboa	Mia P	.89	.40	Dly	.35
"	Bro P	1.03	.40	Dly	.35
"	Lgs P	1.69	.50	Dly	.35
Camaguey, Cuba	Mia P	.26	.25	Dly	.10
Camocim, Brazil	Mia P	1.22	.50		.40
"	Bro P	1.60	.50		.40
"	Lgs P	2.05	.50		.40
Campeche, Mexico	Mia P	.41	.25	Su,W,F	.10
"	Bro P	.51	.40	Dly	.10
"	Lgs P	1.00	.40	Dly	.10
Campo Grande, Brazil	Mia P	1.48	.50	Su,F	.40
"	Bro P	1.61	.50	W,F	.40
"	Lgs P	2.18	.50	Tu,Th	.40
Canavieiras, Brazil	Mia P	1.33	.50	Su,W	.40
"	Bro P	1.81	.50	M,F	.40
"	Lgs P	2.38	.65	Su,Th	.40
Caracas, Venezuela (See La Guaira)					
Caravellas, Brazil	Mia P	1.36	.50	Su,W	.40
"	Bro P	1.85	.50	M,F	.40
"	Lgs P	2.41	.65	Su,Th	.40
Cayenne, Fr. Guiana	Mia P	1.02	.40	Dly	.30
"	Bro P	1.26	.50	Th	.30
"	Lgs P	1.91	.50	W	.30
Cayo Mambi, Cuba	Mia P	.26	.25	Dly ex Sa	.10
Chetumal, Mexico	Mia P	.55	.40	W,F	.10
"	Bro P	.59	.40	Su,Th	.10
"	Lgs P	1.04	.40	W,Sa	.10
Chidayo, Peru	Mia P	1.11	.50	Dly	.30
"	Bro P	1.19	.50	Dly	.30
"	Lgs P	1.81	.50	Dly	.30
Cienfuegos, Cuba	Mia P	.23	.18	Su,Tu,F	.10
C. del Carmen, Mexico	Mia P	.45	.25	Su,W,F	.10
"	Bro P	.47	.40	Dly	.10
"	Lgs P	.94	.40	Dly	.10
Ciudad Trujillo, D. R.	Mia P	.45	.25	Dly	.10
Cochabamba, Bolivia	Mia P	1.26	.50	W,Sa	.35
"	Bro P	1.35	.50	Tu,F	.35
"	Lgs P	1.95	.50	M,Th	.35
Concepcion, Bolivia	Mia P	1.31	.50	Sa	.35
"	Bro P	1.45	.50	F	.35
"	Lgs P	2.03	.50	Th	.35
Cordoba, Argentina	Mia P	1.49	.50	Dly	.40
"	Bro P	1.63	.50	Dly	.40
"	Lgs P	2.19	.50	Dly	.40
Coro, Venezuela (via Barranquilla)	Mia P	.74	.40	Su,Tu	.25
"	Bro P	1.11	.50	Dly	.25
"	Lgs P	1.69	.50	Dly	.25
Coro, Venezuela (via Maracaibo)	Mia P	.74	.40	M,W,F	.25
Couramba, Brazil	Mia P	1.41	.50	Su,W,F,Sa	.40
"	Bro P	1.56	.50	M,Th	.40
"	Lgs P	2.13	.50	S,W	.40
Cristobal, Canal Zone	Mia P	.76	.40	Dly	.15
"	Bro P	.82	.40	Dly	.15
"	Lgs P	1.46	.50	Dly	.15
Cuenca, Ecuador	Mia P	1.06	.40	Su,W,F	.30
"	Bro P	1.15	.50	Tu,Th,Sa	.30
"	Lgs P	1.76	.50	M,W,F	.30
Curitiba, Brazil (Via Rio)	Mia P	1.60	.50	Su,W,F	.40
"	Bro P	2.00	.50	M,W,F	.40
"	Lgs P	2.68	.65	Su,Tu,Th	.40
David, Panama	Mia P	.82	.40	Dly	.15
"	Bro P	.85	.40	Dly	.15
"	Lgs P	1.38	.50	Dly	.15
Emeralda, Ecuador	Mia P	.99	.40	Tu	.30
"	Bro P	1.11	.50	M	.30
"	Lgs P	1.71	.50	Su	.30
Florianopolis, Brazil	Mia P	1.63	.50	Su,M,F	.40
"	Bro P	2.11	.50	W,F,Sa	.40
"	Lgs P	2.65	.65	Tu,Th,F	.40

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/4 Oz.
		Per Lb.	Per \$100 Value		
Fort de France, Martinique	Mia P	.71	.40	Sa	.15
"	Bro P	1.16	.50	Su	.15
"	Lgs P	1.78	.50	Sa	.15
Fortaleza, Brazil (Coara)	Mia P	1.25	.50	Su,M,Tu,W, Th,Sa	.40
"	Bro P	1.54	.50	Su,M,Tu,Th, F,Sa	.40
"	Lgs P	2.10	.50	M,W,Th,F, Sa	.40
Georgetown, British Guiana	Mia P	.90	.40	Dly	.30
"	Bro P	1.24	.50	Dly	.30
"	Lgs P	1.88	.50	Dly	.30
Guadalajara, Mexico	Bro P	.43	.25	Dly	.10
"	Lgs P	.50	.40	Dly	.10
Guantanamo, Cuba	Mia P	.28	.25	Dly	.10
Guatemala City, Gua	Mia P	.74	.40	Dly	.12
"	Bro P	.53	.40	Dly	.12
"	Lgs P	1.08	.50	Dly	.12
Guayaquil, Ecuador	Mia P	1.04	.40	Dly	.30
"	Bro P	1.15	.50	Dly	.30
"	Lgs P	1.75	.50	Dly	.30
Havana, Cuba	Mia P	.20	.18	Dly	.10
Hermosillo, Mexico	Bro P	.77	.40	Dly	.10
"	Lgs P	.24	.25	Dly	.10
Iguazu Falls, Brazil	Mia P	1.69	.50	Su,F	.40
"	Bro P	1.91	.50	W,F	.40
"	Lgs P	2.48	.65	Tu,Th	.40
Ixtepe, Mexico	Mia P	.76	.40	Su,M,Tu,W, Th,F	.10
"	Bro P	.41	.25	Th,F	.10
"	Lgs P	.89	.40	Su,M,Tu,W, Th,Sa	.10
Joao Pessoa, Brazil (Cabedello)	Mia P	1.25	.50	W	.40
"	Bro P	1.64	.50	M	.40
"	Lgs P	2.20	.50	Su	.40
Kingston, Jamaica	Mia P	.39	.25	Su,Tu,W,F	.10
La Guaira, Venezuela	Mia P	.81	.40	M,W,F,Sa	.25
"	Bro P	1.15	.50	Dly	.25
"	Lgs P	1.75	.50	Dly	.25
La Paz, Bolivia	Mia P	1.25	.50	Su,Tu,W,Sa	.35
"	Bro P	1.30	.50	M,Tu,F,Sa	.35
"	Lgs P	1.95	.50	Su,M,Th,F	.35
Lima, Peru	Mia P	1.18	.50	Dly	.30
"	Bro P	1.24	.50	Dly	.30
"	Lgs P	1.88	.50	Dly	.30
Loja, Ecuador	Mia P	1.08	.50	Su,W,F	.30
"	Bro P	1.17	.50	Tu,Th,Sa	.30
"	Lgs P	1.78	.50	M,W,F	.30
Maceio, Brazil	Mia P	1.26	.50	Su,M,Tu,W, Th,Sa	.40
"	Bro P	1.68	.50	Su,M,Tu,Th, F,Sa	.40
"	Lgs P	2.24	.50	M,W,Th,F, Sa	.40
Managua, Nicaragua	Mia P	.86	.40	Dly	.12
"	Bro P	.71	.40	Dly	.12
"	Lgs P	1.22	.50	Dly	.12
Manaos, Brazil	Mia P	1.24	.50	S,W	.40
"	Bro P	1.56	.50	M,F	.40
"	Lgs P	2.13	.50	Su,Th	.40
Manta, Ecuador	Mia P	1.03	.40	Th,Sa	.30
"	Bro P	1.14	.50	W,F	.30
"	Lgs P	1.74	.50	Tu,Th	.30
Manzanillo, Cuba	Mia P	.26	.25	Dly ex Su	.10
Maracaibo, Venezuela (via Barranquilla)	Mia P	.69	.40	Su,Tu	.25
"	Bro P	1.08	.50	Dly	.25
"	Lgs P	1.66	.50	Dly	.25
Maracaibo, Venezuela (via La Guaira)	Mia P	.69	.40	Tu,Sa	.25
Maturin, Venezuela	Mia P	.89	.40	Dly	.25
"	Bro P	1.19	.50	Dly	.25
"	Lgs P	1.80	.50	Dly	.25
Masatlan, Mexico	Bro P	.57	.40	Dly	.10
"	Lgs P	.45	.25	Dly	.10
Medellin, Columbia (via Boquilla)	Mia P	1.06	.40	Su,W,F	.35

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per \$100 Value		
Medellin, Columbia..... (via Balboa)	Mia P	1.06	.40	Tu,Sa	.35
"	Bro P	1.10	.50	M,Th,F	.35
"	Lgs P	1.65	.50	Su,W,Th	.35
Mendoza, Argentina.....	Mia P	1.41	.50	M,W,Th,Sa	.40
"	Bro P	1.55	.50	Su,Tu,W,F	.40
"	Lgs P	2.11	.50	M,Tu,Th,Sa	.40
Merida, Mexico.....	Mia P	.37	.25	Su,W,F	.10
"	Bro P	.55	.40	Dly	.10
"	Lgs P	1.04	.40	Dly	.10
Mexicali, Mexico.....	Lgs P	.20	.18	Dly	.10
Mexico City, Mexico.....	Mia P	.64	.40	Su,W,F	.10
"	Bro P	.26	.25	Dly	.10
"	Lgs P	.69	.40	Dly	.10
"	Lgs A	.70	.35	Dly	.10
"	Fv A	.42	.25	Dly	.10
"	Eo A	.43	.25	Dly	.10
"	Sq A	.74	.35	Dly	.10
Minatitlan, Mexico.....	Mia P	.53	.40	Su,W,F	.10
"	Bro P	.39	.25	Dly	.10
"	Lgs P	.86	.40	Dly	.10
Monterrey, Mexico.....	Fv A	.34	.25	Dly	.10
"	Eo A	.34	.25	Dly	.10
"	Lgs A	.62	.35	Dly	.10
"	Sq A	.74	.35	Dly	.10
Montevideo, Uruguay*..... (See notes below)	Mia P	.20	.18	Dly ex Su,W	.10
Nassau, Bahamas.....	Mia P	1.25	.50	Su,M,Tu,W, Th,Sa	.40
Natal, Brazil.....	Bro P	1.61	.50	Su,M,Tu,Th, F,Sa	.40
"	Lgs P	2.18	.50	Su,M,W,Th, F,Sa	.40
Oaxaca, Mexico.....	Mia P	.73	.40	Su,W,F	.10
"	Bro P	.35	.25	Su,Tu,Th	.10
"	Lgs P	.81	.40	Su,Tu,Th	.10
Oruro, Bolivia.....	Mia P	1.26	.50	Su,Tu,W,Sa	.35
"	Bro P	1.33	.50	M,Tu,F,Sa	.35
"	Lgs P	1.95	.50	Su,M,Th,F	.35
Panama City, Panama..... (See Balboa, C. Z.)	Mia P	1.13	.50	Dly	.40
Para (Belem), Brazil.....	Bro P	1.34	.50	Dly	.40
"	Lgs P	1.95	.50	Dly	.40
Paramaribo, Sur.....	Mia P	.97	.40	Dly	.30
"	Bro P	1.25	.50	Dly	.30
"	Lgs P	1.90	.50	Dly	.30
Parnahyba, Brazil.....	Mia P	1.21	.50	Su,W	.40
"	Bro P	1.48	.50	M,F	.40
"	Lgs P	2.04	.50	Su,Th	.40
Point a Pitre, Guadeloupe.....	Mia P	.66	.40	Sa	.15
"	Bro P	1.14	.50	Su	.15
"	Lgs P	1.74	.50	Sa	.15
Port au Prince, Haiti.....	Mia P	.37	.25	Dly	.10
Port of Spain, Trinidad.....	Mia P	.79	.40	Dly	.15
"	Bro P	1.20	.50	Dly	.15
"	Lgs P	1.81	.50	Dly	.15
Porto Alegre, Brazil.....	Mia P	1.70	.50	Su,M,W,F	.40
"	Bro P	2.19	.50	M,W,F,Sa	.40
"	Lgs P	2.75	.65	Su,Tu,Th,F	.40
Puerto Suarez, Bolivia.....	Mia P	1.41	.50	W,Sa	.35
"	Bro P	1.56	.50	Tu,F	.35
"	Lgs P	2.13	.50	M,Th	.35
Preston, Cuba.....	Mia P	.24	.25	Dly ex Sa	.10
Quito, Ecuador.....	Mia P	.97	.40	Dly	.30
"	Bro P	1.09	.50	Dly	.30
"	Lgs P	1.68	.50	Dly	.30
Recife (Pernambuco), Brazil.....	Mia P	1.26	.50	Su,M,Tu,W, Th,Sa	.40
"	Bro P	1.65	.50	Su,M,Tu,W, Th,Sa	.40
"	Lgs P	2.21	.50	Su,M,Tu,W, Th,F,Sa	.40

\* Shipments for Montevideo must be assessed rates to Buenos Aires plus 55c per 2 lbs. or fraction thereof (min. 55c) for forwarding by other carrier to Montevideo, plus \$1.10 per shipment transfer charge at Buenos Aires.

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per ½ Oz.
		Per Lb.	Per \$100 Value		
Rio de Janeiro.....	Mia P	1.50	.50	Su,M,W,F	.40
"	Bro P	1.96	.50	M,W,F,Sa	.40
"	Lgs P	2.54	.65	Su,Tu,Th,F	.40
Robore, Bolivia.....	Mia P	1.38	.50	Sa	.35
"	Bro P	1.51	.50	F	.35
"	Lgs P	2.08	.50	Th	.35
Salinas, Ecuador.....	Mia P	1.05	.40	Th,Sa	.30
"	Bro P	1.15	.50	W,F	.30
"	Lgs P	1.75	.50	Tu,Th	.30
Salta, Argentina.....	Mia P	1.30	.50	Su,Tu,F	.40
"	Bro P	1.45	.50	M,Th,Sa	.40
"	Lgs P	2.03	.50	Su,W,F	.40
San Ignacio, Bolivia.....	Mia P	1.33	.50	Sa	.35
"	Bro P	1.48	.50	F	.35
"	Lgs P	2.04	.50	Th	.35
San Jose, Bolivia.....	Mia P	1.35	.50	Sa	.35
"	Bro P	1.50	.50	F	.35
"	Lgs P	2.08	.50	Th	.35
San Jose, Costa Rica.....	Mia P	.89	.40	Dly	.15
"	Bro P	.76	.40	Dly	.15
"	Lgs P	1.31	.50	Dly	.15
San Juan, Puerto Rico.....	Mia P	.53	.40	Dly	.10
San Salvador, El Salvador.....	Mia P	.79	.40	Dly	.12
"	Bro P	.61	.40	Dly	.12
"	Lgs P	1.14	.50	Dly	.12
Santa Cruz, Bolivia.....	Mia P	1.28	.50	W,Sa	.35
"	Bro P	1.43	.50	F	.35
"	Lgs P	1.99	.50	M,Th	.35
Santiago, Chile.....	Mia P	1.38	.50	M,W,Th,Sa	.40
"	Bro P	1.51	.50	Su,Tu,W,F	.40
"	Lgs P	2.08	.50	M,Tu,Th,Sa	.40
Santiago, Cuba.....	Mia P	.26	.25	Dly	.10
Sao Luis, Brazil.....	Mia P	1.19	.50	Su,M,Tu,W, Th,Sa	.40
"	Bro P	1.43	.50	Su,M,Tu,Th, F,Sa	.40
"	Lgs P	1.99	.50	Su,M,W,Th, F,Sa	.40
Sao Paulo, Brazil..... (via Rio)	Mia P	1.55	.50	Su,M,W,F	.40
"	Bro P	2.04	.50	M,W,F,Sa	.40
"	Lgs P	2.60	.65	Su,Tu,Th,F	.40
Sao Salvador, Brazil..... (Bahia)	Mia P	1.28	.50	Su,M,Tu,W, Th,Sa	.40
"	Bro P	1.76	.50	Su,M,Tu,Th, F,Sa	.40
"	Lgs P	2.33	.65	Su,M,W,Th, F,Sa	.40
St. Johns, Antigua, British West Indies.....	Mia P	.64	.40	Su,M,W,F,Sa	.15
"	Bro P	1.13	.50	Su,M,W,F,Sa	.15
"	Lgs P	1.73	.50	Su,Tu,Th,Sa	.15
St. Thomas, V. I.....	Mia P	.57	.40	Sa	.10
"	Bro P	1.10	.50	Su	.10
"	Lgs P	1.68	.50	Sa	.10
Talara, Peru.....	Mia P	1.08	.50	Dly	.30
"	Bro P	1.17	.50	Dly	.30
"	Lgs P	1.79	.50	Dly	.30
Tampico, Mexico.....	Bro P	.20	.18	Dly	.10
"	Lgs P	.81	.40	Dly	.10
Tapachula, Mexico.....	Mia P	.74	.40	Su,W,F	.10
"	Bro P	.53	.40	Dly	.10
"	Lgs P	1.02	.40	Dly	.10
Tegucigalpa, Honduras.....	Mia P	.82	.40	Dly	.12
"	Bro P	.68	.40	Dly	.12
"	Lgs P	1.18	.50	Dly	.12
Tres Lagoas, Brazil.....	Mia P	1.53	.50	Su	.40
"	Bro P	1.66	.50	F	.40
"	Lgs P	2.23	.60	Th	.40
Tucuman, Argentina.....	Mia P	1.34	.50	Su,Tu,F	.40
"	Bro P	1.49	.50	M,Th,Sa	.40
"	Lgs P	2.05	.50	Su,W,F	.40
Turbo, Columbia..... (via Barranquilla)	Mia P	1.06	.40	Su,Tu,W,F	.35
Turbo, Columbia..... (via Balboa, C. Z.)	Mia P	1.06	.40	Sa	.35
"	Bro P	1.10	.50	M,Th,F	.35
"	Lgs P	1.65	.50	Su,W,Th	.35
Tuxpan, Mexico.....	Bro P	.20	.18	Dly	.10
"	Lgs P	.83	.40	Dly	.10



Mail per 1/2 Oz.

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		
Tuxtla, Gutierrez, Mexico	Mia P	.81 .40	Su, W, F	.10	
"	Bro P	.45 .25	Su, Tu, Th	.10	
"	Lgs P	.93 .40	Su, Tu, Th	.10	
Uyuni, Bolivia	Mia P	1.26 .50	Su, Tu	.35	
"	Bro P	1.38 .50	M, Sa	.35	
"	Lgs P	1.95 .50	Su, F	.35	
Veracruz, Mexico	Mia P	.57 .40	Su, W, F	.10	
"	Bro P	.33 .25	Dly	.10	
"	Lgs P	.79 .40	Dly	.10	
Victoria, Brasil	Mia P	1.41 .50	Su, W	.40	
"	Bro P	1.90 .50	M, F	.40	
"	Lgs P	2.46 .65	Su, Th	.40	
Villahermosa, Mexico	Mia P	.49 .40	Su, W, F	.10	
"	Bro P	.43 .25	Dly	.10	
"	Lgs P	.90 .40	Dly	.10	

ATLANTIC LINES

Botwood, Newfoundland	Nyk P	.81 .40	Twice wk	.15	
England via Foynes*	Nyk E	(Rates on Application)		.30	
"	Nyk P	(Rates on Application)		.30	
Foynes, Eire	Nyk P	1.78 .50	Twice wk	.30	
"	Nyk E	2.00 .50		.30	
Hamilton, Bermuda	Nyk P	.55 .25	Twice wk	.10	
"	Nyk E	.55 .25		.10	
Horta, Azores	Nyk P	1.70 .40	Once 2 wks	.30	
Lisbon, Portugal	Nyk P	2.00 .50	Once 2 wks	.30	
Scotland via Foynes*	Nyk E	(Rates on Application)		.30	
"	Nyk P	(Rates on Application)		.30	
Shediac, N. B.	Nyk P	.51 .25	Twice wk	.06	
Wales via Foynes*	Nyk E	(Rates on Application)		.30	
"	Nyk P	(Rates on Application)		.30	

ALASKA LINES

Bethel, Alaska	Ste P	1.11 .40	Schedules not published	.06	
Fairbanks, "	Ste P	.90 .40	"	.06	
Flat, "	Ste P	1.05 .40	"	.06	
Galena, "	Ste P	1.00 .40	"	.06	
Golovin, "	Ste P	1.04 .40	Nov. 1-Apr. 30	.06	
Hot Springs, "	Ste P	.92 .40	Nov. 1-Apr. 30	.06	
Juneau, "	Ste P	.56 .25	Schedules not published	.06	

Planes flying in and out of Miami are operated by Transportes Aereos Centro Americanos (TACA), British West Indian Airways (BWIA), Royal Dutch Airlines (KLM).

These companies operate planes on a non-scheduled basis, mainly under charter, for the transportation of personnel and equipment in the interest of hemisphere defense. It is reported that each flight by these companies is

Destination	U. S. Gateway & Airline	RATES		Depart	Mail per 1/2 Oz.
		Per Lb.	Per \$100 Value		
McGrath, "	Ste P	1.00 .40	"	.06	
Nome, "	Ste P	1.11 .40	"	.06	
Nulato, "	Ste P	1.03 .40	Nov. 1-Apr. 30	.06	
Ophir, "	Ste P	1.03 .40	Schedules not published	.06	
Ruby, "	Ste P	.99 .40	"	.06	
Tanana, "	Ste P	.95 .40	Nov. 1-Apr. 30	.06	
Whitehorse, Canada	Ste P	.66 .40	Schedules not published	.06	

CANADIAN LINES

Calgary, Alb.	Nyk T	1.02	†	Dly	.06
Edmonton, Alb.	Nyk T	1.06	†	Dly	.06
Halifax, N. S.	Nyk T	.31	†	Dly	.06
Lethbridge, Alb.	Nyk T	.44	†	Dly	.06
"	CubW	.04	†	Dly	.06
London, Ont.	Nyk T	.22	†	Dly	.06
Montreal, Que.	Nyk C	.12	†	Dly	.06
"	Nyk T	.12	†	Dly	.06
North Bay, Ont.	Nyk T	.27	†	Dly	.06
Ottawa, Ont.	Nyk T	.18	†	Dly	.06
Regina, Sask.	Nyk T	.76	†	Dly	.06
St. John, N. B.	Nyk T	.31	†	Dly	.06
St. Johns, N. F.	Nyk T	.55	†	Dly	.06
Sydney, N. S.	Nyk T	.36	†	Dly	.06
Toronto, Ont.	Nyk A	.10	†	Dly	.06
"	Nyk T	.16	†	Dly	.06
Vancouver, B. C.	Ste U	.68	†	Dly	.06
"	Nyk T	.59	†	Dly	.06
Windsor, Ont.	Nyk A	.20	†	Dly	.06
"	Cg A	.12	†	Dly	.06
"	Nyk T	.20	†	Dly	.06
Winnipeg, Man.	GFNW	.04	†	Dly	.06
"	Nyk T	.60	†	Dly	.06

\* British Overseas Airways Corp. carries from Foynes, Ireland, to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: \$50 declared value free; excess charged at 10 cents per \$100 or fraction thereof.

NOTE: The per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: A 1 lb. package from New York to Ontario would cost \$1-25 lbs. \$4. Average cost per pound: 16 cents.

by special permit from the Civil Aeronautics Board and that their planes now carry no commercial passengers, express or cargo shipments.

Nicar Corp., subsidiary of Freeport Sulphur Co., is operating its own plane to transport equipment and personnel between Miami and Antilla, Cuba, where it has under construction a large plant for production of nickel for the U. S. Government.



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JOHN F. BUDD  
Editor and Publisher

Vol. 2 APRIL, 1943 No. 4

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## But How About Tomorrow's Traffic?

The future of air commerce is as important to the future of our own country as it is to Middle America, which was so fittingly saluted as a Good Neighbor this month. (See page 40.)

True enough, we are making immense strides in plane-building, in learning how to utilize planes in carrying cargo. We are, through the Army's Air Transport Command and through the great war-time efforts of the airlines—our domestic lines, our international lines and regional foreign lines like TACA—carrying more merchandise through the air than was ever carried since the Wrights first got off the ground at Kitty Hawk, 40 years ago.

But are we giving as much thought to the great question of *traffic after the war is over?* Are we putting even a tenth of our aviation brains into planning how the traffic can be developed to support and use the thousands of planes we shall have at our disposal after Victory?

The technical problems are very well advanced toward solution.

But the selling problem of air commerce has hardly been touched.

Yet in the postwar future each depends on the other. Now—and no later—is the time for the best brains in the aviation world—and among shippers, as well—to concentrate as never before in building, for the future, the traffic that will sustain during the peace the great air power we have built for war.

## Airlines Need Planes

We don't know whether it was coincidence or not, but within a week, two figures of considerable prominence came out to urge that the Army—which has been given such splendid physical support by the airlines—give back to the lines just a dozen or two planes, to keep domestic air mail and express flying.

One of them was Peter Edson, the Scripps-Howard Washington columnist, who urged that the Army, out of its censored thousands of planes, allot the airlines just these few, to enable them to prevent a serious breakdown in the efficient movement of essential air mail and cargo.

The other was Col. Edgar S. Gorrell, president of the Air Transport Assn., addressing a press luncheon the other day in New York.

To our way of thinking, these views are sound. Of course, neither Columnist Edson nor Air Transportman Gorrell would dream of suggesting that these planes be pulled out at any point that would jeopardize in the slightest our military progress.

But the airlines, were the idea carried out, would be regaining a mere fraction of the aircraft they have already willingly given up to the Army. With half their 1941 complement of aircraft, they have been doing twice or three times the job. Moreover, no one is asking this favor just because he likes the airlines. The reason is that air mail and air cargo on the home front may well be just as essential as the transportation of both in theaters of war.

We strongly hope that Col. Gorrell gets what he's after.

## LETTERS to the Editors

### **Britain Likes A. T.**

This is to acknowledge three additional copies of AIR TRANSPORTATION, November issue, and we are wondering whether it is possible to obtain three copies of the October issue.

My October issue was sent to the Honorable W. L. Runciman [president, British Overseas Airways Corp.—Ed.] and I am desirous of placing other copies of your first issue, which is an excellent example of postwar activities.

I should however like you to record my congratulations on your very new publication which is of great interest and brings home the future means of transport.

B. K. GARDINER,  
Carter Paterson & Co. Ltd.,  
London, England.

*All thanks to British Reader Gardiner for his high compliments. His three extra copies*

*of the October inaugural issue of this "very new publication" are en route to him, thanks to a none too eager Circulation Department scraping of the bottom of the barrel for an issue that has become all but a collector's item. Let readers be warned: virtually the entire generous overprinting of AIR TRANSPORTATION's first issue is now exhausted.—Ed.*

Your publication has just been called to my attention.

Please accept my congratulations for producing a sensible and informative magazine. It provides a dependable source of information on the newest member of the transportation family. Freight men in particular will watch its growth with keen interest.

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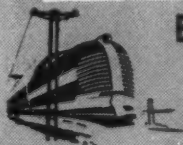
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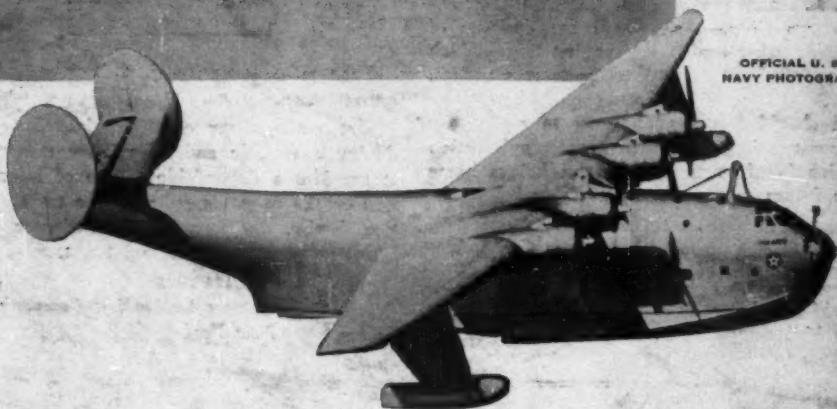
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